Issue 24 • Apr 22 1989

Only 48p!

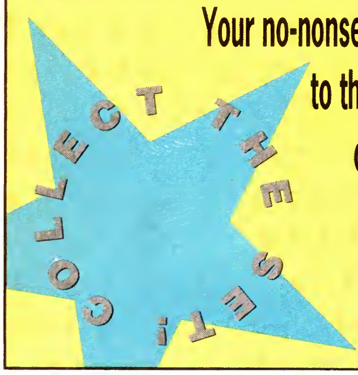
SAVE ££££££s on any purchase *page 51*

NEW COMPUTER EXPRESS

First news, first reviews – every week

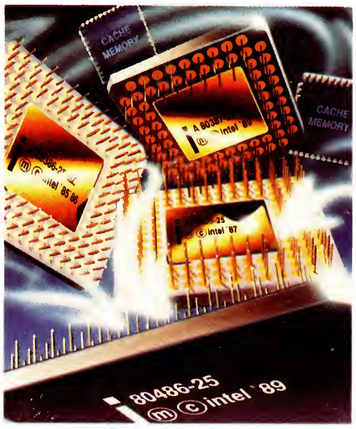
YAZZ: The only way is up for Atari? *page 2*

A > Z


COLLECT THE SET!

Your no-nonsense guide to the world of computing starts this week *page 27*

MONSTER CHIP IS HERE!



Mainframe power at your fingertips *page 2*

THE REAL THING?

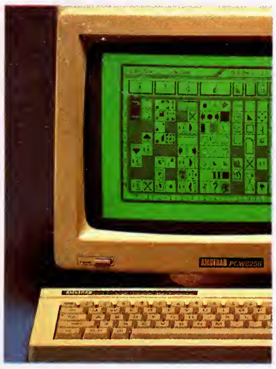
Real Ghostbusters – true successor to world's biggest selling game? *page 48*

PACK-A-MAC

Transform your ST into an Apple Mac *page 23*

THE WRITE STUFF

Amstrad's PCW phenomenon *page 20*



Sections for YOUR machine

PC • C64
Amiga
Atari ST
Spectrum
CPC • PCW
QL • BBC
MSX

pages 33–41

MOULD THE FRONT PAGE

EXCLUSIVE!!

How computers make the news at The Guardian

page 15

Comment 4 • Charts 5 • Letters 11 • Columns 33 • Jobs 30 • Tips 43 • Classifieds 46 • Entertainment 47 • Vouchers 51

IT'S A MONSTER

Ground breaking chip unveiled by Intel

The computer world was last week buzzing with expectancy after the launch of a new "monster chip" by Intel.

The Intel 486 chip was unveiled in Chicago and it will be able to give normal PCs the power of expensive mini computers. With nearly four times the power of top of the range Intel 386 chip it is little wonder that the announcement was greeted warmly by dozens of leading hardware manufacturers.

Incredibly, the 486 can give desk top computers 50 times the power of the original Intel-based PCs of the early 1980s. It is being seen an enormous step forward in computer technology.

In the near future users will have at their disposal mainframe-like performance and PC compatibility. The announcement was followed by dozens of hardware manufacturers queuing up to make their approval known. Heading these were IBM, Compaq, Sun, Dell, Olivetti, Phillips, Wang and Unisys.

By chip standards the 486 is large. Only about 70 of them can be fitted on to a normal six inch wafer. However, just one of the chips is as powerful as three of today's semiconductors. It boasts a speed of up to 20 Million Instructions per Second (MIPS).

"This is a monster," said Intel's chairman Gordon Moore. "Five years ago it was inconceivable that we could make such a chip." He explained that enormous investment in purpose-built systems had enabled the development.

It's likely that the first PCs using the chip will arrive before the end of this year.

Most importantly, PC owners have been given a clear upgrade path well into the next decade. Some are predicting that 386 PCs will come down in price so quickly that the 286 PC will be rendered obsolete within two years.

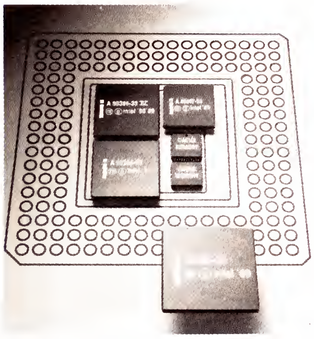
It has even been suggested that by 1992 ten per cent of all PCs sold will be 486-based and will cost less than $8,000. By the middle of the next decade home PC owners could be looking at mini computer power in their living rooms.

The works

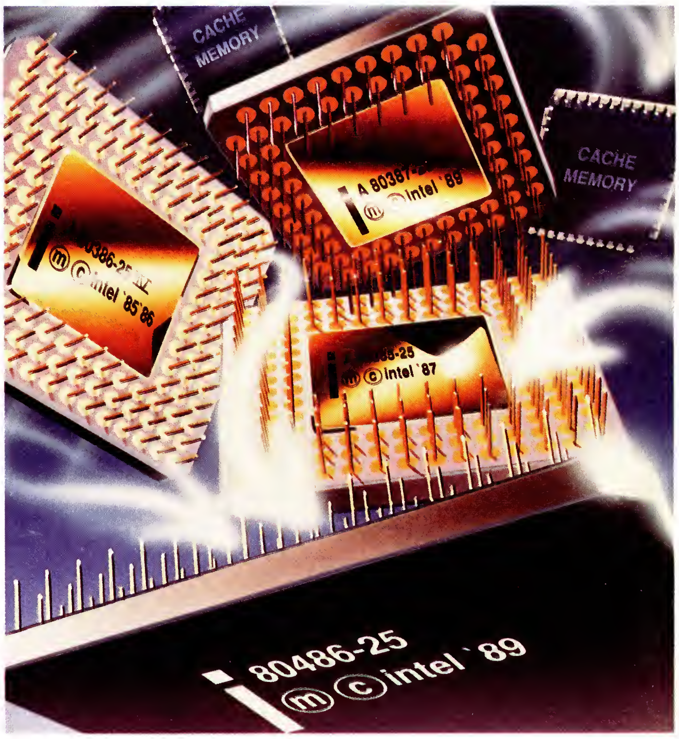
The new 486 is basically a tight bundle of high performance PC components.

Intel has squeezed the basic fast chip as well as a maths processor which is normally separate for the chip itself. It also incorporates memory management unit and cache as well as employing RISC-style architecture.

Intel has spent many millions of pounds automating its manufacturing using sophisticated computer engineering. Defects normally associated with chip manufacturing have thus been eradicated leaving room to pack more in.



● Squeezing in the power



• Intel's 486: A chip for the 1990s

Scanner in the works

DTP on the PC is more popular than ever, with a wide range of relevant software and peripherals available. Now Logitech has launched a high resolution scanner for the machine. ScanMan has an adjustable resolution of up to 400 Dots Per Inch (DPI) and costs £199. Logitech points out that since most PC owners have printers which can only cope with 300 DPI this is the best resolution they could hope for. ScanMan will run on PS/2 machines as well. Logitech reckons it's as good as full A4 scanners.

ScanMan
Hand-Held Scanner
FINESSE
MOUSE
FINESSE
MOUSE

• Logitech line up: Now ScanMan

Atari and all that Yazz

Atari is pondering tying up a sponsorship deal with record company Big Life, which produces the likes of Yazz, Cold Cut and S'Express.

According to Atari insiders, the high flying popster approached the hardware manufacturer with a view to some sort of an agreement. It would appear that Big Life is keen to set up a state of the art music studio utilising high tech equipment based on a string of Atari STs. Atari would also help in the production of a promo video.

In return Atari would get "endorsement through association". Big Life's stable of pop stars and its high tech approach to music has not been missed by Atari.

Given the Atari ST's capabilities and popularity in the music world, such a deal would appear to be a good idea. Atari is still thinking it all through.

A Big Life spokesman told *Express* that Atari had been approached.. He said though that little progess had been made.

● STand up...

Telecomsoft sale: It's official

As exclusively predicted in *Express* last week MicroProse has scooped up the three Telecomsoft labels Rainbird, Firebird and Silverbird.

The British labels are now the property of the growing American company. Its line up of affiliate companies and labels make it increasingly difficult to describe the firm as a military simulation specialist.

MicroProse spent something in the region of £2 million on the deal. However, Magnetic Scrolls – which was responsible for some of Telecom's best-known games including *The Pawn*, *Guild of Thieves* and *Fish* – will not automatically be transferred to MicroProse. Scrolls' Ken Gordon point blank refused to comment on the matter.

Pick a pocket encyclopaedia

A pocket sized CD-ROM PC has been launched by Oxford firm Attica Cybernetics.

The machine can run normal PC software by adding a keyboard but its most interesting facet is pocket sized CD capabilities. In effect, you could be walking around with an encyclopaedia in your pocket. However, Dynabook costs a hefty £3,800 restricting itself to specialised (or wealthy) users.

OPUS PLANS PC CHEAPO

An IBM-compatible PC with a 20 Mb hard disk is to be launched by Opus – at less than £800.

Next month the British manufacturer will be unveiling the PC3/20 with an impressive price tag of £799. As yet no tech specs are known although it is understood the machine will look like its sister, the PC4.

Buyers wishing to buy a PC with a hard disk are usually looking at spending at least £1,000.

Opus reckons first time buyers will flock to the new machine. "Journalists may not like it because we haven't exactly re-invented the wheel. It's no 386 but it'll sell more than any of them," boasted a spokesman.

"I think we've pulled off a coup by offering a hard disk machine at such a low price. First time buyers are becoming increasingly aware of the usefulness of a hard disk. There is definitely a place for a low cost XT like this."

Opus lowest priced machine with a hard disk is the PCIII with 30Mg — that costs £1,000. The PC3/20 should be launched at next month's *PC User Show*.

PCIII
PCV
PCVI
PCIV
PC7

• Opus PC line up: 20Mb baby soon

A console in the hand...

Nintendo is developing a handheld version of its extraordinarily successful games console.

The GameBoy is currently being put together in Japan but is said to be some way off completion – a US launch this year has been all but ruled out. The handheld will be fully Nintendo compatible. A UK launch is almost certain in the long term.

The Epyx handheld (*Express* 12) will be launched at the CES Show in June.

■ *FOFT REMIXED*

Following a cold response from much of the ST reviewing fraternity Gremlin has promised a "remix" version of *Federation of Free Traders*. The firm is also putting out assurances that the forthcoming Amiga version of *FOFT* will be polished.

The *Elite*-type game has experienced a string of problems from bugs, admissions of a sub standard manual and some poor reviews. However, ST owners will son be able to send off for a tweaked version plus new manual by popping their original *FOFT* disk in the post along with £1.

"Everything is there is in the ST version," commented Gremlin's boss Ian Stewart. "But we just got a little close to the game during development. We're actively taking note of the critics while developing the Amiga version." More details over the next few weeks.

GREMLIN GRAPHICS SOFTWARE LIMITED
FEDERATION OF FREE TRADERS

• FOFT: Polished version soon

CONTENTS

FEATURES

DTP AT THE GUARDIAN 15
Harnessing mainframe power to produce one of the country's top dailys
HISTORY OF THE PCW 20
The story of the micro that changed the world...
ST MAC EMULATOR 23
Turn your ST into a Macintosh with Hisoft's Spectre 128
A-Z 27
Starting this week, the Express guide to the world of computing

REGULARS

EXPRESS COMMENT 4
CHARTS 5
LETTERS 11
JOBS 40
TECH TIPS 43
CLASSIFIEDS 46
GAMES 47-48
Abrams Battle Tank, Kick Off, Renegade III, Real Ghostbusters, Police Quest 2, Steve Davis World Snooker
GAME PREVIEWS 50
Skate or Die, Crime Town Depths, Powerdrome, Microprose Soccer, Hyperforce, Xenon II
VOUCHERS 51
BACK PAGE 54

YOUR FORMAT

ST 33
PC 34
Amiga 35
Spectrum 36
Commodore 64 37
PCW, QL 38
BBC, MSX 39
CPC 41

NEW COMPUTER EXPRESS

COMMENT

Power to… who?

The new Intel 486 chips are promised to give us 'mainframe power' in our home micros. By the beginning of the next decade, our computers will be fifty times faster than the machines we were using at the start of the eighties. All great stuff for the power-hungry spec-conscious technojunkie to look forward to. What about the rest of us computer owners?

Well, 486 machines won't be available for a few years. When they are though, all the old favourites like WordStar, Lotus, WordPerfect et alia will no doubt t be available in special 486 versions. But how different will they be?

A few extra bells and whistles perhaps, but you can bet that the standard packages won't be changed that much. The user base is so large now that major departures are out of the question. Perhaps zappy new window-based programs will be out to replace them – but perhaps not. A lot of time and money has been invested in training people to use the current standard packages, and changing to new systems means expensive retraining.

The onus is on program developers to produce programs that use the extra power – not to make dBase run a millisecond faster, but to construct friendly interfaces and make programs more graphics based and easier to use. Only then will we be able to move on from old standards to more intuitive methods of computing.

You don't upgrade your car because you want to go faster, you do it because you want something bigger, or more reliable. After all, even a Skoda can break the limit; the limits of useful speed have been reached already. How soon will it be before we can say the same for computers? Perhaps sooner than you think.

EDITOR........Rob Ainsley
NEWS EDITOR........Colin Campbell
REVIEWS EDITOR:........Andy Storer
TECHNICAL EDITOR........Jerry Glenwright
STAFF WRITER........Rik Haynes
ART EDITOR........Angela Neal
ART ASSISTANT........Harriet Athay
PRODUCTION EDITOR........Rod Lawton
ADVERTISEMENT MANAGER....Mark Salmon
DEPUTY AD MANAGER........Jennie Evans
AD EXECUTIVES........Sarah King
AD TYPESETTING........Terry Turner
PUBLISHER........Greg Ingham
© Future Publishing Ltd 4 QUEEN ST, BATH, BA1 1EJ
TEL: 0225 446034 • FAX: 0225 446019
Printed by Redwood Web Offset, Trowbridge, Wilts
Distributed by Comag, West Drayton, Middx

SPEEDY ARCHIES UNVEILED

• New Archies and tasty profits from Acorn

Busy Acorn has unveiled new additions to its Archimedes range offering a claimed ten per cent more speed.

And the firm has confirmed the appearance of new machines in the summer although the low cost Archie is still not being discussed (*Express* 20).

The three new models are affiliated to the Archimedes 400 range. They all boast standard 32-bit RISC technology – claimed to be capable of four million instructions per second (MIPS). The machines are said to be ten per cent faster than their predecessors – achieved by increasing the memory cycle efficiency.

The new Archimedes 400 weighs in at £1,199 with the bigger machines costing £1,699 (410) and £2,449 (440). Whilst on the expensive side Acorn is once again pointing out the advantages in speed and memory for price which the range has over PCs.

"We're providing users with an unmatched combination of high performance RISC technology, hardware and software flexibility and the ability to upgrade the system as and when required," said Acorn's Terry Shurwood.

Meanwhile, Acorn has turned around a financial loss in 1987 of £2.4 million into a profit for '88 of £1.6 million. Acorn has put this down to its continued domination of the education sector as well as expansion away from it.

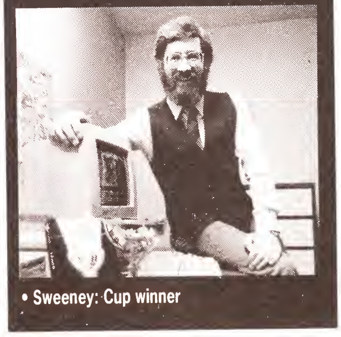
Vessel do nicely

Computer boffin John Sweeney's fascination in King Arthur's legend has won him a £5,000 silver goblet.

Software house Mandarin had offered the Holy Grail replica as the prize in a nationwide treasure hunt based on the adventure game *Lancelot*. Sweeney, a puzzle nut, worked his way through all the clues on the game finally arriving at Cerne Abbas Giant etched in chalk in the Dorset hills.

He cracked the clues using his Atari ST, his knowledge of Arthurian legend and his experience with adventures. "When I saw them combined in this quest I couldn't resist it," he said. "It was heavy going at the end because the clues were so obscure."

Anyone who got bogged down can obtain the answers from Mandarin at Europa House, Adlington Park, Adlington, Macclesfield, SZ10 4NP.


• Sweeney: Cup winner

MACHINE SPECIFICS

Those 16-bit chums Atari and Commodore have been spouting about how many machines they've sold again.

Commodore has at last passed the one million mark with about 700,000 of those here in Europe. Those in the biz are hoping for a slap up meal and a few glasses of champers by way of celebration and reward.

Not to be outdone, Atari (somewhat scornfully) points out that it passed the million mark early last year and claims to be somewhere around the 1.6 million mark with about 70 per cent in Europe.

• The 16-bit numbers game

Nicking chips

A violent string of chip thefts has hit the home of the semiconductor – Silicon Valley. Armed chip thieves have inflicted five robberies on Orange County in California over the last six months. Last month four men with machine guns stormed into ALR's plant but left empty handed. However, other gun toting gangs have made off with chips worth more than £50,000.

This is your PC calling...

And now, the ultimate in telephone answering systems. Sefer – a French electronics company – has just announced an add-on for the PC which will allow it to answer the telephone with up to 30 minutes of digitised speech.

The add-on – known as the Vocatel – comes in the form of a pair of printed circuit boards which plug into a standard PC. Once installed, Vocatel answers the telephone and offers callers the choice of 100 words in 2 and 3 word phrases.

By choosing a suitable phrase and repeating it back to Vocatel, the caller can access more detailed information held in the form of a 'tree structure' spread over 12Mb on hard disk

Sefer is hoping that despite the price of £2000, the Vocatel will attract small business users who need the power of a human operator but the simplicity of a computer system.

Photon Paint II: "Trouble" brewing

The future of *Photon Paint II* is in the balance this week as MicroIllusions decides its future plans for the UK market.

The highly regarded American paint package is sold here through Activision. However, inside sources at MicroIllusions suggest that the firm is looking to change its approach to the UK. Whether this means a complete break with Activision does not appear likely.

A MicroIllusions spokesperson confirmed that a decision would be made this week but would not comment further. Activision's UK boss Rod Cousens told *Express*: "I understand there may be some trouble but we have a twelve month contract with MicroIllusions which we will be enforcing if that becomes necessary."

***Photon Paint II* is due out on the Amiga in the near future. The original *Photon Paint* was, at one point, bundled with the Amiga itself.**

PHOTON PAINT
Paint

• Photon Paint: Sequel future murky

CHECKOUT THE LATEST COMPUTER

Underpaid part timers could be replaced by computers at your local supermarket check-out till.

US firm CheckRobot is talking to a number of British supermarkets with a view to installing its computer cashier. Customers would simply place their groceries on a conveyor belt which would pass over a bar code reader.

A voice synthesizer reads out the products and their prices. When the customer has paid the bill he can have the groceries at the other end. If any attempt is made to put something on the conveyor belt beyond the bar reader point the computer knows.

It memorises the shape and weight of each item. If something were to arrive which was not in immediate memory the computer screams blue murder.

CheckRobot has already been tried out with some success in Florida and New Jersey. Each one will cost about £16,500 but turnaround speed would be faster.

MARTECH CLOSED DOWN

Ancient games label Martech has been closed down while its boss concentrates on other projects.

Martech has been in existence since the heady days of the early eighties. It is part of the Software Communications group which also acts as an umbrella for development houses Emerald and Intelligent Design.

Boss David Martin – a one time teacher – wants to spent more time concentrating on development rather than "sitting behind a desk" running a publishing operation. "He gets very enthusiastic about developing games and is spending a lot of time going over to Ireland (where Emerald is based)," said a spokesperson. "He just gets more chuffed watching games in development."

Nevertheless, Martin may be launching a new label in the summer concentrating on the 16-bit sector. Martech itself is best known for *Armageddon Man*, *Nigel Mansell* and *Phantom Fighter*.

Martin is a familiar figure in industry circles. His last dealings with Martech though involved legal ructions with *Commodore User* over a review of *Phantom Fighter* (*Express* passim).

• Martin: Veteran

Brits picked for Soviet micro deal

Soviet authorities have chosen ICL to handle the opening of a PC factory in Leningrad.

The UK giant will build and run the venture in conjunction with various Russian governmental departments. IBM compatible PCs will be sent over from the UK in kit form which will then be assembled by Soviet workers.

ICL will be the first Western manufacturer to run a computer production line in the Soviet Union. IBM had been pitching for the contract but was pipped at the post.

COMPAQ COMPACT COMPUTER

High end PC manufacturer Compaq has introduced a relatively low cost 286 model aimed specifically at the small business user.

The Compaq DeskPro 286e runs a 12 MHz system, has one Mb of memory and five expansion ports. Compaq is keen to dwell on the machine's small footprint and "sleek" design.

The DeskPro, says Compaq, is designed to meet basic computing needs with speed. The entry level price is £1,696. "This computer meets the need for a smaller, high value PC with the variety of integrated features," said Compaq's Joe McNally.

COMPAQ
DESKPRO 286e

• Compaq 286e: Meeting needs

TOP 20 *Full Price* GAMES

1	Robocop	OCEAN	*Spectrum, C64, CPC, ST, Amiga, MSX*
2	Operation Wolf	OCEAN	*Spectrum, C64, CPC, ST, Amiga*
3	Dragon Ninja	OCEAN	*Spectrum, C64, CPC*
4	Emlyn Hughes	AUDIOGENIC	*Spectrum, C64*
5	Middle Earth	MELBOURNE HOUSE	*Spec, C64, CPC, ST, Amiga, PC*
6	WEC Le Mans	IMAGINE	*Spectrum, C64, CPC, ST, Amiga*
7	Afterburner	ACTIVISION	*Spectrum, C64, CPC, ST, Amiga*
8	Run the Gauntlet	OCEAN	*Spectrum, C64, CPC, ST, Amiga*
9	Football Manager 2	ADDICTIVE	*Spectrum, C64, CPC, ST, Amiga, PC*
10	Pacland	GRANDSLAM	*Spectrum, C64, CPC, ST, Amiga, MSX*
11	Arcade Muscle	US GOLD	*Spectrum, C64, CPC*
12	Fun School 2	DATABASE/MANDARIN	*Spectrum, C64, CPC, ST, Amiga, BBC*
13	In Crowd	OCEAN	*Spec, C64, CPC*
14	Thunder Blade	US GOLD	*Spectrum, C64, CPC, ST, Amiga*
15	Football Man. 2 Exp	ADDICTIVE	*Spectrum, C64, CPC, ST, Amiga, PC*
16	Double Dragon	MELBOURNE HOUSE	*Spectrum, C64, ST, Amiga, PC*
17	Renegade 3	IMAGINE	*Spectrum, C64, CPC*
18	Real Ghostbusters	ACTIVISION	*Spec, C64, CPC, ST, Amiga*
19	Batman	OCEAN	*Spectrum, C64, CPC, ST, Amiga*
20	Lombard RAC	DATABASE/MANDARIN	*ST, Amiga, PC*

TOP TEN *Budget* GAMES

1	Treasure Island	CODE MASTERS	*Spec, CPC*
2	Turbo Esprit	ENCORE	*Spec, C64, CPC*
3	Ghostbusters	MASTERTRONIC	*Spectrum, C64, CPC, Atari 8-bit*
4	Twin Turbo V8	CODE MASTERS	*Spec, CPC*
5	ACE 2	CASCADE	*Spec, C64, CPC*
6	Joe Blade 2	PLAYERS	*Spectrum, C64, CPC, BBC, Electron, C16*
7	Infiltrator	KIXX	*Spectrum, C64, CPC*
8	SAS Combat	CODE MASTERS	*Spectrum, CPC*
9	Street Gang	PLAYERS	*Spectrum, C64, CPC*
10	Frank Bruno	ENCORE	*Spectrum, C64, CPC, C16*

RE re-entry • NE new entry • Last week's positions ↑
Compiled by Gallup
The charts shown are based on the Open Market, that is retailers who stock a broad range of products. All charts shown are copyright of Gallup.

BULLETIN BOARDS FACE TAX BURDEN

Users will be penalised

Leading bulletin board Micronet is spearheading an attack on the Government's recent budget which decreed that on-line time and subscriptions are taxable.

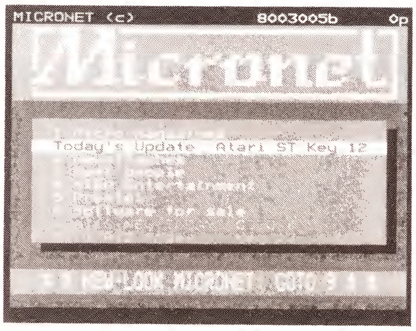
The chancellor had decided to slap a 15 per cent VAT bill on all users of bulletin boards because they come under the business service umbrella. However, Micronet has branded this unfair because non-business users are being sucked in.

Micronet – part of the huge Prestel service – is to present a report to the Treasury next week which will ask for the law to be made more specific. Its moves are being backed by rival Compunet although that service is looking to use local methods to sidestep the taxes.

"The tax was really aimed at news services such as Reuters because that's a business service," said Micronet's David Rosenbaum. "Micronet just happens to come under that though and so user will be penalised. We want to say no to VAT."

Micronet is confident that it will be able to convince the Treasury to relax its ruling.

A spokesman told *Express* that the matter would be investigated.



• Micronet: VATman strikes

An apology

New Computer Express on behalf of Future Publishing would like to take this opportunity to apologise unreservedly to MicroProse. Future Publishing last week humiliated the latter firm's leading lights 13-3 in a "friendly" football match. The software house was crushed without mercy. We now accept that Microprose's staff were not ready to face those of Future and we are sorry for making mincemeat out of them. We are happy to set the record straight.

Stars Wars XLs

Software starved Atari 800 owners should be pleased to hear that Domark is releasing Star Wars for their micro. This coin-op conversion places you in the hot-seat of an rebel X-Wing Fighter on a mission to take out the Imperial Death Star. Out later this month, Star Wars will cost £9.99 cassette, £12.99 disk.

Digital Integration on cloud 9

Enormous American software house Electronic Arts has ended its search for a simulation of the US fighter F16 – in the UK.

The firm has scooped up Digital Integration's flight sim which will be used in the US. EA – which produced *Interceptor* – will be pitching F16 *Combat Pilot* as its premier flight sim for the year.

"It's our first release in 12 months and programmers have been working day and night on it for two years" enthused DI's Dave Marshall.

SOUND & MUS
AGAZINES GRAPHIC

• F16: Doing well over there

PC Engine

With Pal TV Converter and TV Booster!

NOW ONLY £159.95 inc VAT (+ £5.00 P&P)

MENTION TECHNICAL SERVICES guarantee that if we are out of stock of PC ENGINES when your cheque or Postal Order arrives:
No cheques will be cashed before the goods are available.
You will be informed of any delays immediately by first class post.
A FREE GAME WILL BE SENT WITH THE MACHINE!! (Any previous orders on the voucher scheme will also now receive this new offer!)

CURRENT SOFTWARE TITLES AVAILABLE (New Titles arriving next month)

Shanghai	£24.95	World Court Tennis	£24.99
Wonderboy	£24.95	Alien Crush	£24.95
Drunken Master	£24.95	The Legendary Axe	£24.95
Victory Run	£24.95	Space Harrier	£29.95
Chan & Chan	£24.95	Dragon Spirit	£24.95
World Stadium	£24.95	Fantasy Zone	£24.95
R-Type I	£24.95	Vigilante	£29.95
R-Type II	£24.95	Son & Son II	£24.95
Galaga '88	£24.95	Baseball Namcot	£24.95
Nectaris	£27.95	Moto Roader	£29.95*
Deep Blue	£29.95	Honey Sky	£29.95
Dungeon Explorer	£29.95*	R*47	£29.95
Out Live	£29.95	Tiger Heli	£29.95
F1-Pilot	£29.95		

(+ £1.50 P&P / Software order)

* These Titles work on the 5 player adaptor which is also in stock for £19.95 (+ £1.50 P&P)

SEGA MEGADRIVE AVAILABLE NOW ONLY £179.95 (+ £5.00 P&P)
SIX SOFTWARE TITLES AVAILABLE BETWEEN £24.95 - 29.95

CD ROM UNITS ONLY £299.95 ! ! !
(+ £5.00 P&P)

Nintendo

NEW!!! - THE PC ENGINE AND NINTENDO SUPER JOYSTICK FOR ONLY £24.95 (+ £2.00 P&P)
PC ENGINE VHS PREVIEW VIDEO CASSETTE (36 TITLES) ONLY £6.95 (+ £2.00 P&P)
We also sell a huge range of NINTENDO products. SAE for details

SEGA Trade Enquiries Welcome

Cheques and Postal Orders / S.A.E. for details to:

We Accept EXPRESS VOUCHERS

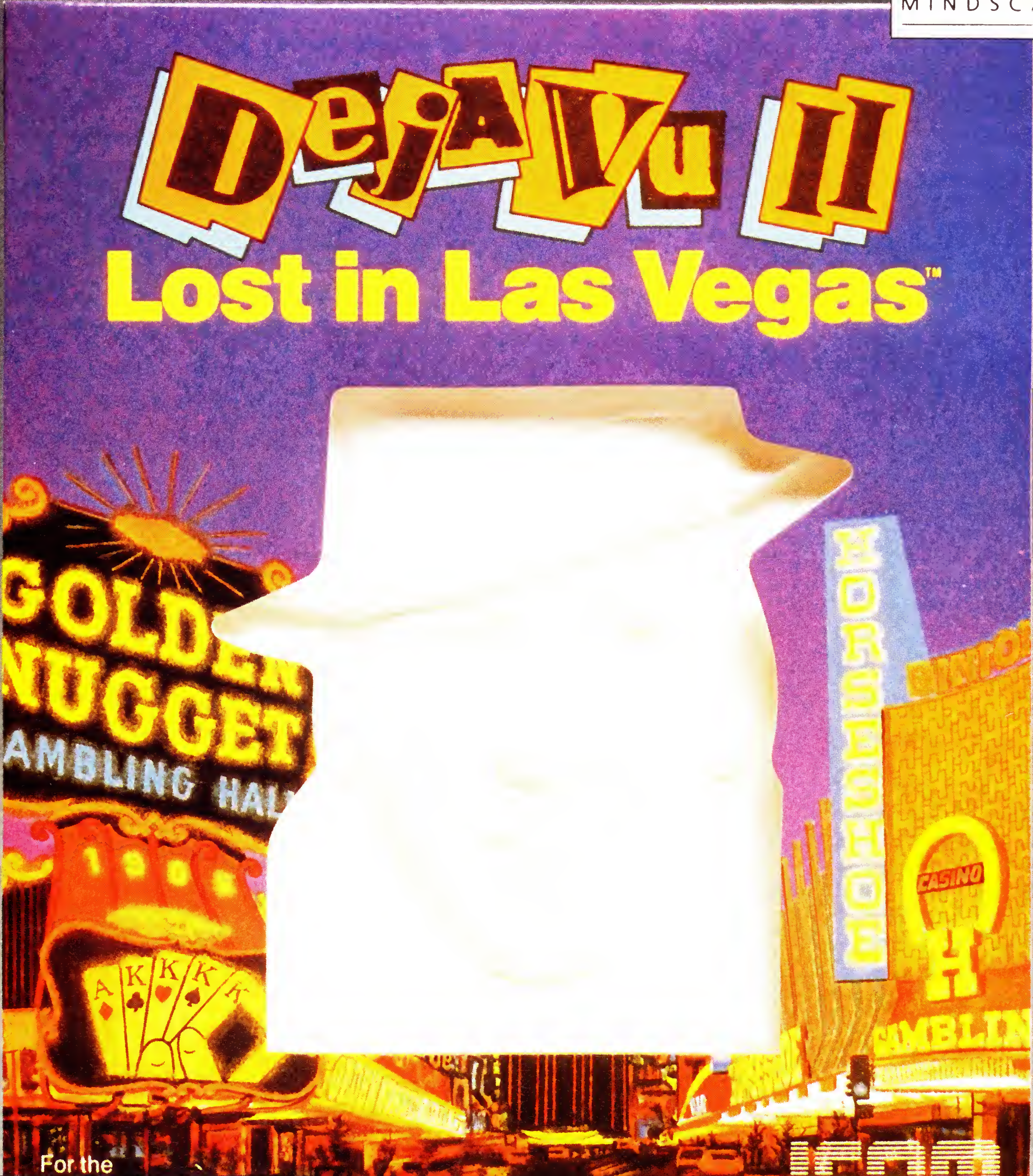
Mention

We Accept EXPRESS VOUCHERS

29 Malcolm Place, Helensburgh. G84 9HW
Telephone: 0436 78827 for any other details. (Access & Visa Facilities soon)
Mention Technical Services bank with: The Royal Bank of Scotland, 2 Colquhoun Square, Helensburgh. G84 8SJ

Play it again Sam

MINDSCAPE INC


Déjà Vu II
Lost in Las Vegas™
GOLDEN NUGGET
GAMBLING HALL
HORSESHOE
CASINO
GAMBLIN
ICOM
ICOM SIMULATIONS, INC.

For the

Amiga · Atari ST · PC · Apple IIGS · Macintosh.

Welcome to the world of Déjá Vu—and to Las Vegas, the city that never sleeps – the city of excitment! Actually, you've already had plenty of excitment in the last 24 hours.

You've been abducted by two thugs from Chicago, grilled by the notorious Las Vegas mobster, Tony Malone, knocked senseless, and tossed into a bathtub in a cheap Vegas hotel.

It couldn't possibly get any worse than this – or could it?!

MINDSCAPE

For further information on Mindscape Products and your local dealer contact.
Mindscape International Limited, PO Box 1019, Lewes, East Sussex BN8 4DW. Tel. (044 486) 545/547

The Atari 520STFM.

Of £450 wort

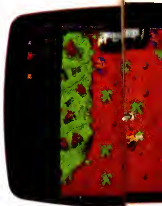
MARBLE MADNESS. £24.95
Electronic Arts.

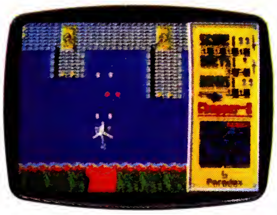
TEST DRIVE. £24.95
Electronic Arts.

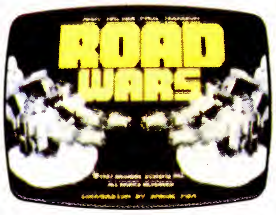
BEYOND THE ICE PALACE. £19.95
Elite.

BUGGY BOY. £19.95
Elite.

EDDIE EDWARDS SUPER SKI. £19.95
Elite.


IKARI WAR


CHOPPER X. £9.99
Mastertronic.



ROADWARS. £19.95
Melbourne House.

XENON. £19.95
Melbourne House.

ARKANOID II. £19.95
Imagine.

WIZBALL. £19.95
Ocean.

BLACK L

Here it is! The new Super Pack from Atari.

You don't just get the brilliant 520STFM. We're giving you twenty-two great software titles that most people would gladly sell their grannies for.

There's no catch. You really do get the 520STFM and £450 worth of great software titles for just £399.99.

So make sure you include yourself in this great offer.*

*Available from most Atari dealers. Offer ends March 1st 1989.

M. £399.99 inclusive.

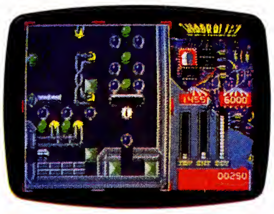
th of software.

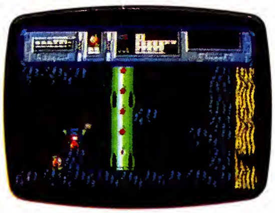
RI WARRIORS. £14.95
Elite.

RANARAMA. £19.95
Hewson.

THUNDERCATS. £19.95
Elite.

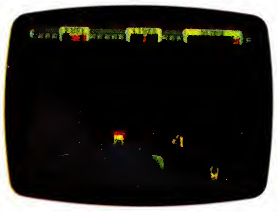
ZYNAPS. £19.99
Hewson.


QUADRALIEN. £19.95
Logotron


STARQUAKE. £19.95
Mandarin.

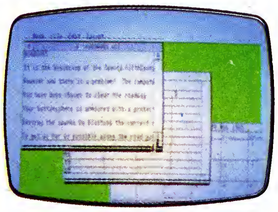
ACK LAMP. £19.95
Firebird.

GENESIS. £19.95
Firebird.


THRUST. £9.95
Firebird.

SECONDS OUT. £19.95
Tynesoft.

SUMMER OLYMPIAD 88. £19.95
Tynesoft.


ORGANISER BUSINESS SOFTWARE. £49.95
Triangle Publishing.

Please send me details of this and other Atari Products
Name ____________ Address ____________
____________ Postcode ____________
Atari Corp (UK) Ltd., Atari House, Railway Terrace, Slough, Berkshire SL2 5BZ

ATARI
SUPER PACK

MERRYMODE

BUSINESS, UTILITY
EDUCATIONAL GAMES
& PERIPHERALS

MAIL ORDER
133 TUDOR ROAD, HAYES, MIDDX UB3 2QF
TEL: 01 573 4314

ALL PRICES
INCLUDE VAT P&P

GAMES

	AMIGA	ST
Falcon	21.95	18.95
Operation Wolf	18.95	15.50
TV Sports F/Ball	21.95	—
Dungeon Master	18.95	18.95
Stos	—	21.95
Elite	18.95	18.95
Afterburner	18.95	15.50
Batman	18.95	15.54
Speedball	18.95	18.95
Baal	15.50	15.50
Obliterator	18.95	18.95
Double Dragon	15.50	15.50
Captain Blood	18.95	18.95
Sword of Sodan	21.95	—
Falcon	21.95	18.95
Purple Saturn Day	18.95	18.95
Thunderblade	18.95	15.50
Flying Shark	18.95	18.95

MERRYMODE
GIFT VOUCHERS
SOLVE THOSE GIFT PROBLEMS
£5, £10 & £20
POSTAGE FREE

AMIGA 500
WITH MODULATOR
PHOTON PAINT
WORKBENCH 1.3
ONLY
£350
INCLUDING
VAT & POSTAGE

PLEASE NOTE
THIS OFFFER EXCLUDES ALL
EXISTING OFFERS

AMIGA UTILITIES

Publishers Choice	72.50
Audio Master	32.95
Amigafile	34.95
Digi Paint	42.50
Digicalc	29.95
Drum Studio	29.95
Excellence	149.95
Express Paint	50.95
Superbase Personal	69.95
Wordperfect	172.50

TELEPHONE OR WRITE FOR FREE PRICE LIST AMIGA, ATARI ST, C64, AMSTRAD, SPECTRUM, IBM & COMPATIBLES

We Accept EXPRESS VOUCHERS

Disk Box 3.5 holds 50 Lockable	6.95
Amiga Dust Cover durable clear plastic	8.50
3.5 Drive Cleaner	5.95
Top Quality mouse mat	4.95

We Accept EXPRESS VOUCHERS

CUSTOMERS IN EIRE PLEASE CONTACT: MERRYMODE, PO BOX 26, CARLOW. TEL 0503 41543

Athene Consultants (Media Centre)
16 Stoke Road, Gosport, Hants. PO12 1JB
Tel: 0705 511439 (Office Hours)
0705 511648 (24 Hours) **Fax: 0705 511646**

* Same Day Despatch* Stock items
* CREDIT CARDS WELCOME*
* Access & Visa*
All Orders £1 Delivery Charge. All Prices Include VAT.
Courier Next Day Delivery £5.75

We Accept EXPRESS VOUCHERS

WE WILL MATCH OR BEAT ANY OTHER PRICE, CALL OR WRITE FOR DETAILS

THE LOWEST PRICES IN THE UK GUARANTEED. CALL FOR QUANTITY DISCOUNTS

3.5" DS/DD 135TPI
High Quality Bulk
High Clip (KAO/Maxell)
Lifetime Warranty, **recommended for Amigas**
97p
Also Standard Bulk at
86p

5.25" DS/DD 48tpi
High Quality Bulk
High Clip
Lifetime Warranty
For IBM PC 360k
37p
Minimum Qty 25
Order in Units of 25

5.25" DS/QD 96tpi
High Quality Bulk
High Clip
Lifetime Warranty
45p
Minimum Qty 25
Order in Units of 25

5.25" HD AT 96tpi
High Quality Bulk
High Clip
Lifetime Warranty
For IBM AT 1.2 Mb
£1.13 Inclusive
Minimum Qty 25
Order in Units of 25

SPECIAL OFFER * * * *
5.25" DS/HD Branded Verbatim only £16.00 while stocks last
3.5" ``DS/DD Branded Verbatim only £13.00 while stocks last
Amiga 500 Systems from £379

STAR COMPUTER PRINTERS
Registered Dealer, Official UK versions only

LC10	£199.00 (inclusive)
LC10 Colour	£259.00 (inclusive)
LC 24/10	£310.00 (inclusive)
NB 24/10	£425.00 (inclusive)
Star NX15	£320.00 (inclusive)
Star NB 24/15	£510.00 (inclusive)
Star LP8 Laser Only	£1600.00 (inclusive)
Panasonic Laser	£1840.00 (inclusive)
Citizen 120D (Commodore)	£139.00 (inclusive)

Price includes delivery & VAT

AMIGA HARDWARE

AMIGA A500	£389.00 (inclusive) + FREE Software
AMIGA A500 1MEG	£528.00 (inclusive) + FREE Dragon's Lair
1084 S Stereo Monitor	£279.00 (inclusive)

A2000 MACHINES, PLEASE CALL FOR PRICING

"APD Unlimited! Now part of Athene PD. Full Range of Amiga PD from £2.50 a disk Special Offer: Starter Collection of 4 PD Demo disks. Latest releases £6.50 Inclusive. Ever growing library, please send S.A.E. for Catalogue

We also Supply Verbatim, Fuji, Xidex, Maxell, Nashua

The Full STAR Printer Range at Low Prices

PC HARDWARE
AMSTRAD
EFI
SAMSUNG
OPUS
PLEASE CALL FOR THE BEST QUOTES

SCHNEIDER EURO PC
Complete Mono System Now Available
£389.00
+ VAT

EXPRESS MAIL

Dear Reader

More pages packed with another selection from our postbag. Have you got something to say? Make your voice heard in computing's liveliest letters page!

Send your contributions to:

Express Mail, 4 Queen Street, Bath, Avon BA1 1EJ

PS. Sorry, we just don't have the time to give personal replies, whether you include an SAE or not. We're too busy putting Express together!

SOME MORE EQUAL THAN OTHERS

I have collected your brilliant magazine from the first issue and I have enjoyed every single one. I do, however, have one complaint which concerns the way your magazine is based around Atari ST and the Amiga computers which together held approx 9% of the computer market while the Amstrad CPC, the C64 and the Spectrum together held 81%. I would like to know if you do this on purpose or is it that the eight bit computers don't make much news.

Also I read your guides to the best software on the ST and the Amiga and wondered if you would be kind enough to write guides for the other main computers on the market.

John Dawson, Enfield, Middlesex

● ***We certainly try to give equal coverage of all machines in principle – hence the columns – but in practice all new software is either business packages for PCs, video graphics programs for the Amiga, or games.***

We're planning guides to the best software for several more machines in the near future.

VIRUS KILLERS

I have had my Amiga since the beginning of last February and during that time have had many of my disks corrupted by viruses such as SCA, Byte Warrior, Lamer Exterminator, HCS etc.

I found the latter two by chance when visiting a friend's house, and I have come to the conclusion that these viruses/trojans are evil little b******s and I want to do my bit to wipe them out.

If anyone out there doesn't have a copy of the latest VirusX (or equivalent) then send me a disk (blank, or preferably containing some PD software) and return postage. I will send them my latest compilation of Virus Killers the same day.

My address is:

37 Warwick Avenue
Crosby
Liverpool L23 3BS

Alex Lennon, Liverpool, Merseyside

● ***Good to see someone offering practical help to put the boot in on the virus writers. How about a few more people doing the same?***

WET PATCH

As a keen ST user, I was fascinated to read the article in PCW Patch (Express 21) about the use of a Mac for wordprocessing. Particularly amusing was the description of a PCW with Protext as "the ultimate writer's machine". Ignoring such considerations as the lack of power (a Z80?), tight memory, poor printers, awful keyboards, and horrendous displays (murky, blurred green or flickery white), how can a PCW be ultimate when it cannot use a hard disk, for large files (such as books), or a laser, for high quality? Pretending Protext is better than MS Word (chuckle!).

Wouldn't a far better option be a 520 ST FM, mono monitor (the most beautiful computer display I've seen, including a Sun colour workstation!) Star LC-10 and Protext. It would cost only about £100-£150 more, and would be far more powerful and versatile, with better screen and printer and great upgrade potential. Not to mention absolutely stunning games. For about £200, you can even pretend it's a Mac.

D P Jones, Newport, Gwent

● ***I think you missed the point of the article, and anyway your facts are questionable. Only £100 more'? The PCW 8512 (512K memory, same as an ST, and yes it does take hard disks) can cost just £415; an ST plus Star LC 10 and mono monitor is at least £620, a lot to pay just to be able to play games which all cost £25. The difference in speed is negligible when you word process as 99% of the time the processor is waiting for you to press a key – even when you're touch typing as fast as me. Surely for the price the PCW is still the best word processing setup by far.***

STARTING A CLUB

Congrats on an excellent mag. I like the classifieds idea (perhaps the most important part of a magazine – I hope the fees are reasonable.)

I'd like to mention an organisation I'm trying to set up – 'A Guild of Unemployed Atari ST Owners.' The main reason for this is that some users will be isolated by costs of current software and will therefore write their own. The Guild will be set up as a pool of these programming marvels with free access by members – a sort of PD software library with no fees.

Membership will be for a nominal fee (sae with every contact) and software will be freely available for their use. A similar system was set up for Spectrum Owners a while ago and seemed to work OK. Any advice/hints would be greatly appreciated.

Software Producers please note! Not all computer owners can afford to shell out £30 per week for the latest 8 bit re-write.

Mich Ibbotson, Sheffield, South Yorkshire

● ***A good idea – hope it works. Nice to see someone taking a bit of positive action instead of moaning about how they 'have' to copy software because they can't afford it.***

Anyone who can spare a bit of help or advice should contact Mich at 262 Barnsley Rd, Sheffield, South Yorkshire S4 7AG. Tell you what, as soon you get the guild set up, Mich, drop us a line and we'll contribute a year's free subscription to New Computer Express or to our sister magazine ST/ Amiga Format.

MIND THE GAP

I recently purchased 'Dragons Lair' for my expanded IM Amiga A500. On getting home and loading it into my machine. I noticed a large 2" gap at the top of the screen, with some of the picture pushed off the bottom. I contacted the shop where I bought the game and they told me that all copies of the game did that, and that I would just have to live with it.

Could you please tell me why this is the case? None of the screen shots I saw in reviews had this gap at the top. I've got games and utilities with a small gap at the bottom due to the differences between PAL and NTSC, but this is the first to have a large gap at the top.

I'd never have paid £45 for the game if I'd known it wouldn't be full screen.

John Key, Manchester

● ***Shouldnt be any problem with the game; we've never heard of it before. We reckon it's nothing serious, just your monitor not synching properly; try mucking about with the knobs on the back.***

THE PRICE IS WRONG

From the letter 'Money Go Round' (*Express* issue 22) I quote your comment "I've never seen a satisfactory explanation of where the money goes."

Well, a small snippet to get you going... I recently worked as a computer sales assistant for a well known high street store. I was shocked to find out when ordering software that the store purchased software at half price from its distributor, therefore making a huge profit of up to 50% when selling to the likes of you and me.

Possibly this is why mail order is so cheap in comparison. They only wish to make a profit of between 20-30%. Now

SHOT TO PIECES

MYSTERY PRIZE WINNER

I am writing to complain about Psygnosis' packaging of *Barbarian* on the Atari ST. I know this is an old game but I thought that I would bring to your attention that the screen shots on the back are misleading as two out of the three printed are in fact fake and not in the game. I know this as I have finished the game exploring all possible locations. When I phoned Psygnosis they replied, "some of the screen shots on the back of the packaging have not been included as the programmer felt it best not to include them in the final released game."

I definitely bought the game due to the quality of the screen shots and attention to detail.

I would like to ask *New Computer Express* whether this comes under the law for misrepresentation of goods, and if any other people who bought the game have been annoyed or angry at this.

I would also like to know if there is an IBM Compatible emulator for the ST and at what price.

B S Sharman (14), Uckfield, East Sussex

● ***Simple commercial reality suggests that Psygnosis wouldn't be smart to allow this sort of thing to happen again. As for the legality of the matter, opinion is divided. The Sale of Goods Act may technically have been breached, but it's unlikely that even lawyers could be bothered to argue about it.***

To calm your anger, we're sending you a prize. No, it's not a PC emulator for your ST (try Microdeal on 0726 68020 and ask for PC Ditto details). Instead, it's a splendid ST game from Psygnosis. And do you know – the dear chaps aren't even aware yet that they'll be sending it to you...

BARBARIAN II
PALACE

I'm sure I'm not alone in thinking the public are being taken for a ride, and I believe that an exposé of software prices should be written which will put pressure on the likes of W H Smith and Boots to cut their profits.

It is also evident from the above that pirates are not the main cause of high software prices: therefore do not pass the buck as others have done before you. The real culprits are a lot closer to home.

I therefore challenge *Express* to investigate this matter and to produce an honest account of the rip off in the high street.

(Name and address withheld at writer's request)

● ***Such mark-up levels really aren't out of step with other industries, unfortunately. The multiples argue that they have to take that much in order to justify stocking software at all. Publishers say that they have to have "high street visibility" – i.e. big shops selling their games.***

But the whole question of software pricing is too complicated to address in one single letter reply. Just wait for our detailed explanation in a few weeks' time.

ANY PORT IN A STORM

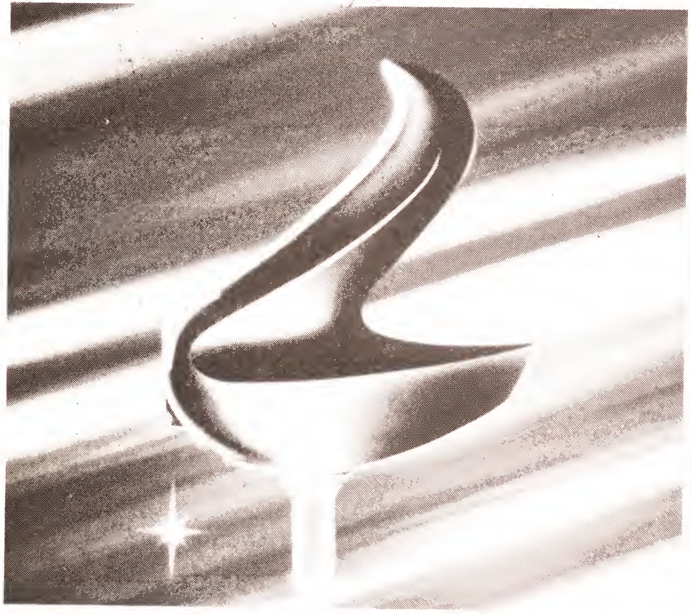
Are you all fed up and frustrated by plugging your joystick in/out?

Here is a solution.... try plugging in/out your joystick for about five times, and once you are fuming with anger, pick up your computer and fling it across the room.

Pick up all the broken pieces and sue the company for gross negligence with regard to joystick-port location.

Umair Malik, London E1

• ***Excellent idea. Do write and tell us if it works.***



• Smashing it up is the best way to fix a joystick, says Umar Malik

THANKS FOR THE MEMORY

I am a Commodore 128 owner and I have a message for software houses and retailers – C64 and 128 owners are crying out for some serious software! I am always looking through magazines and in High Street shops for some decent software but when it comes to the 8-bits all I find is the usual list of 2,000 vertically scrolling shoot-'em-ups.

Please *Express*, can you tell me where I can find business or application programs of any kind which would make my 128 more than a toy?

Also, if there are any C64/128 owners out there who would like to exchange business, art, language packages etc for games, would they please write to me.

Derek Byrne, Mountain Ash, Ballynerrin Lower, Wicklow, Ireland

● ***Due to a foul-up in the way Commodore marketed the machine over here, C128 software in the UK is pretty damned scarce. Pete Calver at Supersoft (which has now become Audiogenic or else has always been Audiogenic; it's very complicated) used to bang on about the 128 some years back, so maybe he's got some products lurking in a warehouse. AudioSuperGenicSoft (or whatever it's called) can be reached on 01 861 1166.***

Failing that, scan our mail order and readers' ads.

NEVER MIND THE GLOSSIES

We are writing to ask you to include in your magazine information of 'Micro Monthly', a new fanzine published entirely by computers. It has competitions, games reviews, hints and tips, puzzles and much more. It includes information about the Amiga, Atari ST, Archimedes, BBC Micro, Commodore 64, Amstrad and Spectrum, and is good value at only 75p. It is a perfect supplement to your magazine. Orders for it should include a stamped self-addressed envelope, preferably A4 size.

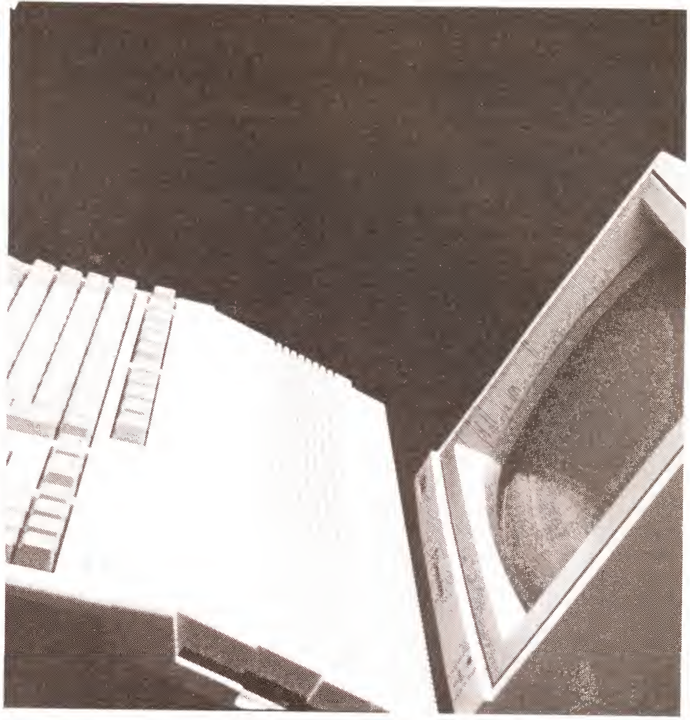
We would be obliged if you could consider advertising in Micro Monthly at the extremely reasonable price of – (That's enough puffery – Ed).

Andrew Bantock and Adrian Jackson, Northwich, Cheshire

● ***Ah, the young of today! Time was when they'd be doing interesting things like sleeping and rebelling. Now they're all starting wee businesses. Still, best of luck etc etc.***

OF GUTLESS WORMS...

I liked your editorial on 'Computer Junkies' being merely a symptom of an underlying junkie mentality. I imagine the same holds true for computer vandals like our friend the 'Beeb Bandit' (or



• The Amiga was designed to be easy to write viruses for, suspects JROK89

'Dribbling Infant', to give him his proper name).

They must have the same aims, motives and levels of unthinking immaturity as the morons who deface our parks and buildings with their aerosols and boots. Denied computers, they'd probably take up graffiti, snapping car aerials or dropping bricks from motorway bridges – if they don't already.

I expect they get a secret thrill from the inconvenience, anxiety and impotent anger which they cause, while having little fear themselves of being caught or punished. It must take that kind of inadequate, gutless worm to terrorize old ladies or make obscene phonecalls.

As for the Dribbling Infant – well, I imagine there are those who would like to find him and break his fingers. Me, I feel rather sorry for him.

Stephen Mercer, Shaftesbury, Dorset

● ***The problem is, getting so worked up about these characters is at least in part what they want. Accusing them of being "real" vandals and the perpetrators of sundry other crimes against humanity only gives them a vicarious thrill.***

They're not as bad as those involved in physical violence: they're just complete and utter prats. Screwing up computers really isn't quite on a par with lobbing bricks off motorway bridges.

WHAT A POPULAR MAG...

I have bought *Express* since issue 17 and liked the magazine so much I ordered some back issues. Unfortunately I was unable to obtain issues 6, 9 and 16.

Can anybody help me obtain these issues?

T Hough, Redcar, Cleveland

● ***I'm afraid that at present issues 5, 6, 7, 8, 9, 15, 16 and 17 are sold out and are effectively collector's items.***

It just goes to show that Express is in such demand that all readers should automatically take out a sub or get a copy delivered by their newsagent. End of subtle propaganda...

GREAT TOPICS OF OUR TIME, PART 983

After several weeks of reading your excellent magazine I feel some final words must be written on the big topics of today (yawn, not more I hear you cry).

1 Porno software: *Strip Poker*, *Teenage Queen*, and so on... Why buy them?? For 1/10th of the price of these games the frustrated computer games can go and buy *Playboy* or *Penthouse* which have lots more glossy hi-res pictures than the best (or should it be worst?) of the poker games, erm well so I'm informed anyway not that I'd actually...

2 Best machine: Q Which machine is the best? A Whatever machine you own.

As a guide to surviving the arguments follow my example and buy more than one machine (I have a PC and an Amiga) plus hang onto your old 8-bit machines (e.g. VIC 20). As a side point you can read most of the Your Format columns in this mag.

3 Viruses: They are the easiest thing in the world to write for 99% of home computers (the Amiga was designed for them, I'm sure). There is nothing hard, challenging or clever about writing them so far they can all be easily found and destroyed (unlike the sh**s who write them).

What on earth is the Beeb Bandit on about? Friends of mine were writing Econet viruses 4/5 years ago. They're old hat to put it mildly. With any luck the prat will grow out of it or get thumped.

4 After your article on comms and modems I'd like to draw readers attention to the AIX-386 bulletin board, it's a good board with lots of stuff for all machines and can be found on 0905 52536 and 0905 754127. Well worth a call.

JROK89, Leicester, Leics

● ***It's so utterly sickening to get reasonable letters like this. Where's the bile, the contentiousness, the irrationalities, the leaps in logic?***

THE HONORARY CONSOLE?

I would like to recommend a games

console under £100. It is not the Nintendo on the Sega: it's the Atari XE games console.

For a mere £99.95 you get the XE games console, a neatly styled keyboard, a light phaser gun, a joystick and 2 games. The Atari XE games console easily has 5 times as many games for it than the Nintendo on the Sega, and there is also the bonus on the XE that you can plug in a data-recorder and load tape games. The XE has good graphics and sound.

The XE might not be able to beat the likes of the PC Engine, 16-bit Nintendo and Sega but it beats the 8-bit Sega and Nintendo hands down. If you have £100 to spend and you are looking for a games console buy the Atari XE games console. You won't be disappointed.

Snardy Cadette, Walthamstow, London

ATARI XE VIDEO GAME SYSTEM

• The Atari XE games console: Best of the 8-bits (Honorary Console)

● ***Oh dear. If the "my computer's better than yours" argumentette is just a tad boring these days, where do you place the console equivalent? Minus infinity on the interestometer?***

Not quite. For those about to buy a console, even partisan comments can aid purchases. Honest. Well, that's the theory, at any rate...

GAME FOR A LAUGH

I have had several good ideas for computer games but I'm a useless computer programmer, so could you please give me some information on how I would go about getting a computer game published.

Andrew Ball, St Lawrence Bay, Essex

● ***"Useless computer programmer", eh? You should apply to CRL on 01 533 2918. (A Lawyer Writes: The aforementioned comment is to be deemed an amusing and risible pleasantry of a satirical, diversionary and otherwise non-serious nature – i.e. it's only a joke)***

But seriously – you should contact one of the software publishers advertising in our Recruitment section.

GREAT TOPICS OF OUR

First of all, let me get the praise out of the way. Although I run a Speccy +3 and Computer Express only carries on average two columns devoted to the Speccy (+, +2, +2A, +3), I find your mag an irresistible read. It's full to the margins of interesting bits.

Right, that's that. Now down to the messy end of the stick. In issue 22 (April 8), in the SPEX column, Robin Alway states that when it comes to selecting an 'Arty Farty' type of program for the Speccy he would go for the Artist. That's all well and good, but my advice to any +3 owners is to forget it. I purchased the Artist 2 disk version in December 88 and made a few amazing discoveries.

- Problem 1 – after loading or saving files the disk motor fails to stop. This can be overcome by doing 'cat' (one shouldn't have to do this).
- Problem 2 (and to my mind the most serious drawback), having spent a lot of time doing your thing on the screen (the mind boggles) you select the print option, press the key to print and 'viola' in front of your very eyes: a right load of cr... sorry, garbage.

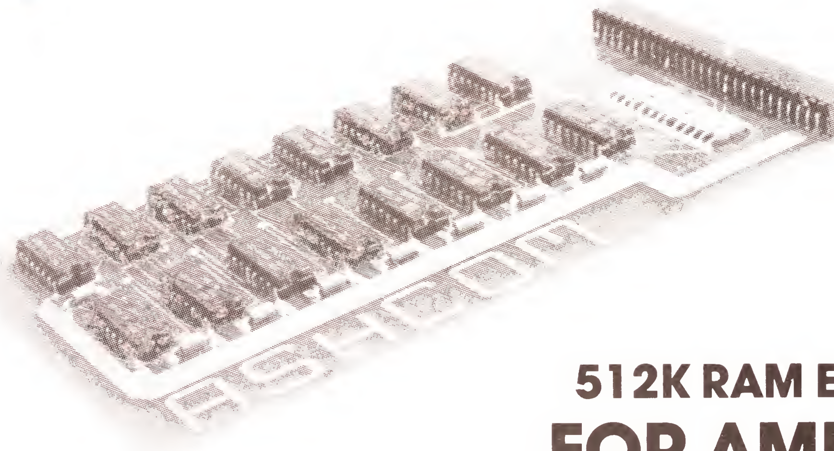
After much messing around I decided to write to Softechnics (the publishers of Artist 2) and duly sent off a very nice letter. That was on December 29. By the time February arrived, no reply had been received. So on February 25, another letter was sent off. Yes, you've guessed it. No reply. So again on March 30 another letter was sent off and to date (April 10) no reply has been received.

A review has been done by another magazine and it would appear that they too have had the same problems. So my advice to potential buyers (+3ers) is to stay well clear, unless of course Softechnics can correct the problem.

Sorry, but cases like this really get on my goat, especially when 99.9999% of companies are so very helpful.

Barry Walton, Whitley Bay, Tyne and Wear

ACCESS
NEW ASHCOM
VISA
(0530) 411485



512K RAM EXPANSION
FOR AMIGA 500
ONLY £99.95 INC VAT

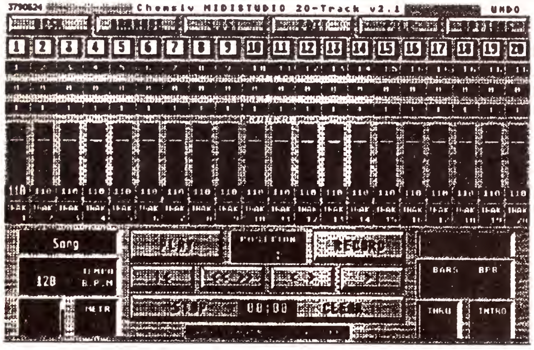
WE ACCEPT EXPRESS VOUCHERS

WE ACCEPT EXPRESS VOUCHERS

ONLY FROM ASHCOM, 10 THE GREEN, ASBY-DE-LA-ZOUCH,
LEICESTERSHIRE, LE6 5JU. TELEPHONE (0530) 411485

LADBROKE COMPUTING INTERNATIONAL

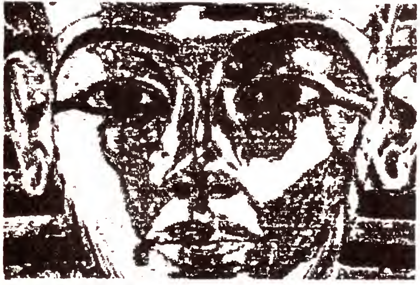
This company has given years of full support to Atari users from their retail premises at 33 Ormskirk Road Preston. Now from their Mail Order premises they can offer this " second to none " service to users countrywide. All Software/Hardware is ex-stock and fully tested prior to purchase to ensure that customers receive total satisfaction, returned goods are now a thing of the past. All hardware is supported by our on site engineers so that quick turn around on all repairs is guaranteed. There are no hidden extras **WYSIWYG, ALL PRICES INCLUDE VAT** and delivery (next day delivery +£3), are correct at time of going to press and are subject to change without prior notice.



Midistudio £99.99

Midistudio is a 20 track Midi Music Studio. This Midi software package is a realistically priced introduction to Midi music processing and includes the following features.
20 tracks each assignable one of 16 midi channels, each track can be transposed up or down 2 octaves, the main screen features full tape deck controls with individual volume sliders for each track, note editing facilities including editing of pitch, octave, duration and velocity, plus full midi controller editing(pitch bend, mod wheel. etc.). Full control over phrases is offered through Quantizing, transposing, and phrase arrangement software pages. The arrangement facilities allow moving and copying phrases on any of the 20 tracks. The package is easy to use and is a strong competitor with Pro 24.

" will give Steinberg's Pro 24 a run for it's money "
ST WORLD March 89



SCAN AT UP TO 1000 DPI FOR ONLY £89.99

The Image Scanner is a peripheral for the ST which can provide high quality graphics digitising for a tenth of the cost of other digitisers. This simple unit plugs into the cartridge port of the ST and accepts scanned information via optical cables which fix easily to the head of any printer. Scanned images can be saved in raw data, Degas and Neochrome formats. The Software supports scanning resolutions of 75,150,216,300,360 and 1000 dots per inch horizontally. An example disk is available which contains a slide show of images scanned with this product. The cost of this disk is £3.99, £2.00 of which is redeemable on purchase of a scanner.

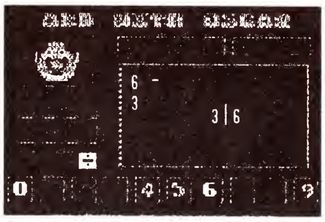
IMAGE SCANNER ONLY £89.99

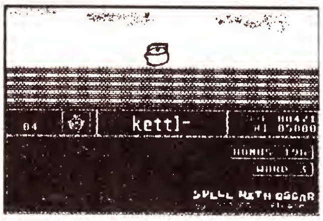
IMG TM
Scan
IMG
SCAN

EDUCATIONAL SOFTWARE

Add With Oscar £12.99

Add with Oscar is a fully mouse controlled educational game with full colour screens and sound for teaching addition, subtraction, multiplication and division to children. This program has selectable difficulty levels and a Hi-Score table.





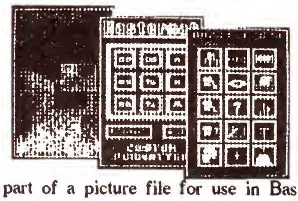
Spell With Oscar £12.99

Spell with Oscar is a game which teaches spelling, keyboard skills and motor coordination. Pictures of objects move smoothly accross the screen and the pupil should spell the name of the object while Oscar checks for mistakes. Spell also incorporates selectable dificulty levels and a Hi-score table.
Extra data disks £6.99

TRILOGY £12.99

Quick List Plus is a utility that compiles a directory of your disks. Sort on disk or name, reads any drive, including hard drive. Printer output for hard copy of databases.

Mastermat is a formatter that optimises disk space, allows non standard sector and track formats/ fast read format.



Picstrip is a utility that captures all or part of a picture file for use in Basic programs, supports GFA, FAST, HISOFT and ST Basics and is Degas, Neochrome and AB Animator compatible.

AB Animator £14.95

AB ANIMATOR

AB Animator is a utility for creating and animating sprites. It supports GFA, HISOFT and FAST basics and is compatible with degas and neochrome picture files.Use the full icon control to animate up to 20 big frames of 56 pixels wide by 33 pixels high.

All dealer enquiries to LEISURESOFT LIMITED, Sketty close, Brackmills Business Park, Northampton, NN4 OPL. Tel: (0604) 768711

ALL HARDWARE AVAILABLE EX-STOCK. PHONE FOR OUR NEW LOW PRICES

For example:

MEGAFILE 30 30 MB HARD DRIVE	*£475*
520 STFM SUPER PACK	*£369.99*
520 STFM EXPLORER PACK	*£279.99*
1040 STFM + CHOICE OF SOFTWARE PACKS	*£449*
TRAK BALL ACTS AS MOUSE	*£19.99*
1 MB CUMANA SECOND DRIVE	*£89.99*
STAR LC10 PRINTER	*£199.99*
STAR LC10 COLOUR PRINTER	*£249.99*
STAR LC 24/10 PRINTER	*£339.99*

PHONE FOR OUR LOW PRICES ON THE FOLLOWING ITEMS ALL EX STOCK.
Upgrades (1, 2.5 and 4 Megabyte memory expansion boards, 1Megabyte memory expansion), Printers, Hard drives, 1Mb second drives, Monitors, TV's, ST packages, Atari PC's. Phone for information on our incredible value software club which offers up to 60% discounts and a free monthly disk magazine for only £15.

Ladbroke Computing International,
33 Ormskirk Road, Preston, Lancs.,
PR1 2QP. Open Monday-Saturday
10 am to 5.30 pm. Dealer enquiries welcome.

ORDER BY PHONE
Call us on numbers below and pay with your credit card.
(0772) 203166 OR 21474

Access
VISA

ORDER BY POST
Make cheques PO's payable to Ladbroke Computing International..
Send SAE for full catalogue.

Ladbroke Computing International is a trading name of Walton Marketing Limited.

Read/write all about it!

When The Guardian went over to electronic publishing the difference was immediately apparent – a new, clean, uncluttered look perhaps only marred by the loss of all those wonderful spelling mistakes. Andy Storer visited its offices to see the sophisticated means by which today's copy becomes tomorrow's news.

Imagine being bussed through barricades, plonked in front of a computer for the first time and told to produce a newspaper. That's what happened at Wapping in 1986. When Rupert Murdoch and Eddie Shah, with more than a little help from Margaret Thatcher, decided to bring Fleet Street up to date and save a lot of money in the process, competition to sell today's stories as tomorrow's news put new emphasis on the term "hot metal production". Newspaper groups either shaped up or shipped out as cut-price production pushed the competition for circulation to new levels.

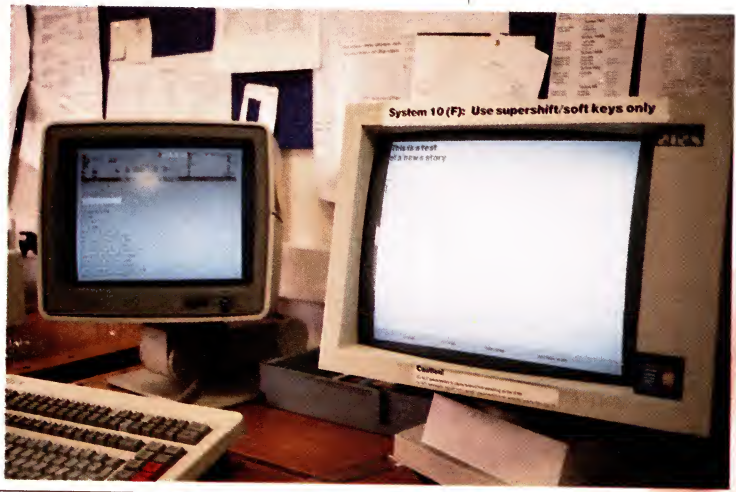
Sixteen months ago, *The Guardian* decided to shape up. Before then it was still using a good deal of the "hot-metal" production process dispensed with in the USA and Australia seven or eight years earlier, where union power over the introduction of new technology failed to take hold.

The "hot metal" method organised newspaper production into quite distinct units. Journalists working on typewriters produced bits of paper which were given to sub-editors to pencil in changes to grammar, spelling and facts and who added instructions on type size, style and prominence on the page. The edited copy, still on paper, would then go to the printing room to be retyped by Compositors on Linotype machines substituting lead "slugs" for each individual character of text. The "slugs" would be positioned and sized on long trays, or galleys, following a design drawn by a journalist.

The galleys would then be curved, and hot molten lead poured over the typeset surface to produce a mirrored image. Finally, this cast would be wrapped around a printer's drum and ink transferred onto paper as it rotated.

From typewriter to terminal

Although many newspapers incorporated computers into their printing rooms five or six years ago, all that changed as far as writers were concerned was that the codes written



• Two terminals running off the ATEX system: unformatted text on the left appears as block make-up on the right

Arts, page 45
The Shakespeare shake-up after Terry Hands
Arts, page 45
The Shakespeare shake-up after Terry Hands
Women, page 2

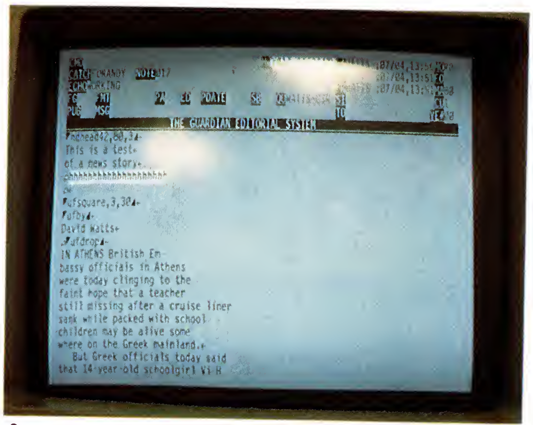
A day in the life of news

On a busy day there are 120 people producing *The Guardian*'s stories. Half of them writing, half editing. Each day, the six or seven news pages – comprising 50 stories – are subbed, laid out and faxed to the printers in five hours. The last page, which is always the front page, goes off at 9.15 p.m. From 3 p.m onwards the other 25/26 pages making up the newspaper are also faxed. From 2.30 am each day, all old wire and typeset stories are purged from disk. All versions of stories are relayed to back-up disks and held for six months. The the free space they leave is verified and redistributed within the system.

☞

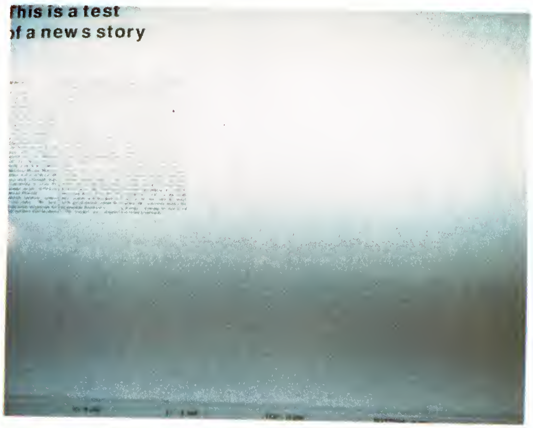
☞ over their copy to signify size and style instructions were slightly different. But in terms of production, the compositing stage was replaced by edited stories being entered directly into a computer database and then typeset onto strips of photographic paper.

After layout, the strips would be pasted up to form a single page and a photographic plate made by printers. This plate would then be wrapped round a drum as before, and the print run begun. This process was an improvement in terms of cost-effectiveness and time management, but stories were still being retyped into another device before being typeset. In an industry of increasing competition, a more efficient means of production was sought. The solution was direct input.



```
CATC  CNANDY  NOTE017
ECHO WORKING
THE GUARDIAN EDITORIAL SYSTEM
^dhead42,60,3^
This is a test^
of a news story^
hhhhhhhhhhhhhhhhhhhh
^ufsquare,3,30^
^ufby^
David Watts^
^ufdrop^
IN ATHENS British Em-
bassy officials in Athens
were today clinging to the
faint hope that a teacher
still missing after a cruise liner
sank while packed with school
children may be alive some
where on the Greek mainland.^
  But Greek officials today said
that 14-year-old schoolgirl Vi-H
```

• Copy entered into ATEX needs to include all the control codes for headline size, text position and sizing. So despite the enormous power of the ten mainframes, there's none of the WYSIWYG of standard PC-ware



• However, mainframe power does mean that block make-up is almost instantaneous. Here, a high resolution monitor allows for several stories to be viewed on a page and positioned at will

Going on-line

Changing the entire production process of a newspaper which has to appear on the streets each day isn't going to be achieved overnight. A year before going on-line, *The Guardian* invested in 150 Tandy laptops for its reporters in order to prepare them for the shock of the new. In-house writers used the Tandy 100 to word process articles before printing them out to be subbed, whilst out on the road the Tandy 102 with its internal modem allowed journalists to familiarise themselves with the mechanics of modem protocols and control codes. Copy could be dialled to a Telecom Gold mailbox where it was converted into telex and sent to base.

Which lead?

One problem facing the modern roving reporter is the difficulty in finding the right lead to hook your portable up to a phone line. *The Guardian* is currently attempting to find all the Tandy leads in the world – from Australia to Zimbabwe – so its overseas contributors don't have to resort to telex – although even telex can be routed straight into ATEX via serial communication processors and treated as wire stories. But finding a telex agency is often a story in itself! Otherwise, it's down to phoning up the copytaker and shouting the entirely mythical "Hold the Front Page".

Todd fails
to del
The Guardian
The Guardian

But this low-level computer literacy stepped up into a higher gear when *The Guardian* invested in the ATEX newspaper publishing system developed by Kodak. This is one of the world's most popular packages and is designed to run in a networked mainframe environment, although cut-down versions are being introduced for the PC market.

Screen printing

ATEX enables a journalist to type a story directly into a shared database, where it can be retrieved by editors, checked and subbed, sized and coded for style – all on-screen. In theory, the system allows every user to write, edit and typeset their own story. But, decision making being what it is – combined with the traditional division of labour – makes the need for sifting, for the subbing of spelling and grammar, checking of legalities and placement and appearance of text and artwork on a page determine the chain of command.

The degree of direct typesetting – or full screen make-up, as it is known – depends on the level of software being used. Some national papers produce full pages complete with spaces set aside for pictures. *The Guardian* produces block make-up where each story comes out independently with spaces for pics and captions. Whatever the outcome, a full page bromide or photographic image of the page is produced, with pictures pasted in position.The resulting master bromides are then faxed to the printers for duplication.

The result is that control over deadlines, length of copy and design has passed dramatically to editorial. And overall responsibility for the product has passed with it. Added to the losses in jobs for compositors and typesetters were those of proof readers. The teams producing the words could no longer pass the buck – any mistakes were theirs. Or, of course, their computers! ●

Hard wired

As an entire issue of the paper comprises approximately 7.2 Mb of data, you'd think the 180Mb total spare would be plenty. But besides having to cope with anything up to 200 programs as background tasks at any one time, there are two additional demands on resources.

Firstly, there are the wire services. *The Guardian* subscribes to 9 on-line news and information services which are always open. Besides the the services Reuters provides on one line, often comprising 3,000 files a day, there are financial, sport and government press release services along with foreign electronic news such as the Washington Post. Add to this 3 telex channels, and you have a massive input of data around the clock.

At the time of the American Presidential elections, the paper had to power down for 20 minutes and re-boot the entire network, such was the overload on system resources. The phenomenon, known as a Wire Flood, came about as a result of the continual updates on the Bush-Dukakis race taking the form of short "takes" of data arriving at a rate of 10-12 files a minute. If a wire flood is anticipated and a system is in danger of overflowing with data, all other systems build "down-queues" which save all overflow material until the source system has been rebalanced with more available memory from the total available managed by the multi-processor bus.

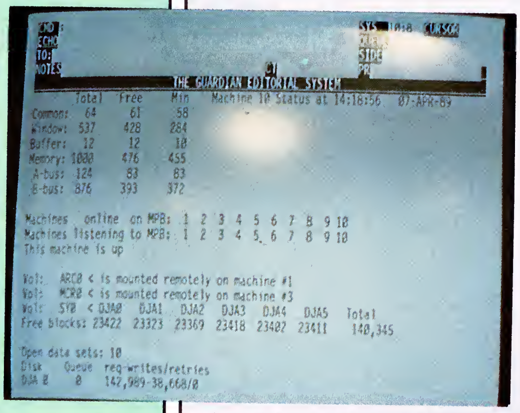
The second demand on resources are the numerous PC users who contribute material to the newspaper from out in the field and abroad. Anything up to 200 users may require access to ATEX in addition to being able to use the network as a medium of access to the wire services themselves. Users can log-on to ATEX just as if they were in the building and upload or download files according to their status. Twelve lines of input need to remain permanently open for this purpose and the user is afforded most aspects of ATEX apart from typesetting.

ATEX specs

The Guardian's ATEX runs on ten DEC mainframes arranged in pairs. Data is distributed between them such that Home News runs on the first two pairs, City news and Sport share 5 and 6, Foreign News is handled by 7 and 8 whilst Features share 7, 8 ,9, and 10. The network is managed by a multi-processor bus – a network brain which among other things allows simultaneous communication between mainframes, such that a story written on the Foreign News system, for instance, can be read from any other.

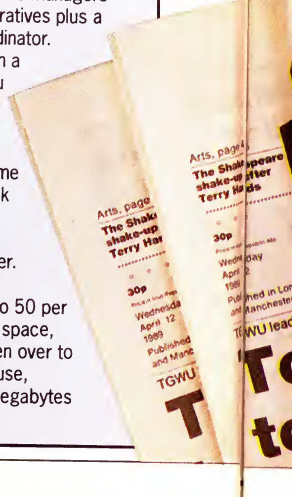
Although each section of the newspaper is assigned an area of the network and operates as a separate unit, overall control resides in the Editor, Duty Editors and Day and Night Editors. In addition, there's the System team needed to keep the show on the road – A Senior Systems Editor and his assistant, seven systems managers and nine systems operatives plus a new technology co-ordinator.

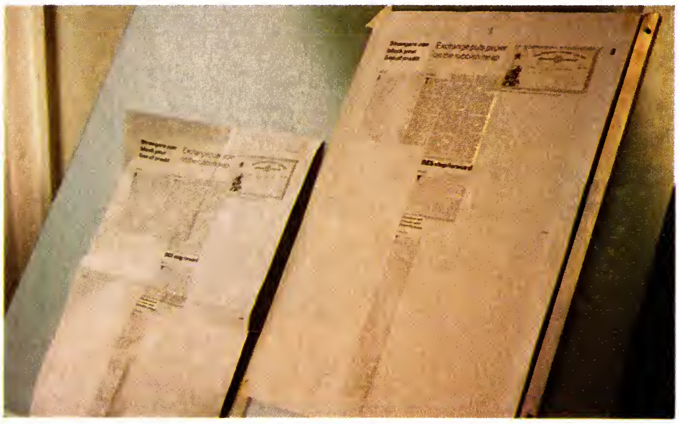
As we're dealing with a 24-hour operation, you might expect vast amounts of memory and storage to be needed. Each mainframe has a 300 Mb hard disk which is constantly monitored and its data duplicated by its partner. Although ATEX system requirements take up to 50 per cent of each hard disk space, and 25 per cent is given over to libraries and personal use, there's typically 180 megabytes left on each system.



```
CMD :                                          SYS  10:8   CURSOR
ECHO
TO:                                            SIDE
NOTES                      CT                  PR
                  THE GUARDIAN EDITORIAL SYSTEM
          Total    Free      Min    Machine 10 Status at 14:18:56   07-APR-89
Common:    64       61        58
Window:   537      428       284
Buffer:    12       12        10
Memory: 1000      476       455
 A-bus:   124       83        83
 B-bus:   876      393       372

Machines  online  on MPB:  1  2  3  4  5  6  7  8  9 10
Machines listening to MPB:  1  2  3  4  5  6  7  8  9 10
This machine is up

Vol:   ARC0 < is mounted remotely on machine #1
Vol:   MCR0 < is mounted remotely on machine #3
Vol:   SY0  < DJA0   DJA1   DJA2   DJA3   DJA4   DJA5    Total
Free blocks: 23422  23323  23369  23418  23402  23411   140,345

Open data sets: 10
Disk    Queue   req-writes/retries
DJA 0     0     142,989-38,668/0
```

• At any time, the Senior Systems Editor can check available memory and redistribute it between systems if necessary





• A rough printout is used as a reference for pasting up high resolution proofs for final artwork. Accompanying photographs would be introduced at this stage

Make the page cope with the news

Whilst stories are still being written, an A4-sized replica of the page is being designed on paper. *The Guardian* is adamant that layout shouldn't dictate either the content or the dynamics of a page, so whilst there's no rigid layout there are certain strictures. A page is 186 lines deep and stories start 17 lines down. Every 15 lines there's a grid line where a block of stories are meant to finish.

With those as guidelines, the number of columns per story are decided and whether a story has an accompanying picture. The typeface, font size, headline and area are all decided in terms of the page's overall look. All stories are checked on-screen for accuracy, legality, spelling and grammar. If a story needs cutting to length, the old text is automatically stored should a new design require its recall. Once the page is OK'd by duty editors, the individual "blocks" are laser printed before being pasted up, along with pictures, onto a full-size grid. If all the elements arrive together, this can take as little as ten minutes.

Todd fails to delay docks vote
TGWU leader calls for port talks before strike
The Shakespeare shake-up after Terry Hands
Arts, page 45

• A complete page layout proofed to high resolution and ready to be faxed to the printers

BULK DISKS FROM ONLY 19p each

MEDIAWARE

5¼" BULK DISKS, ENVELOPES AND LABELS

	50	250	500	1000
SSDD 48tpi	.26	.23	.20	.19
DSDD 48tpi	.27	.25	.24	.22
DSDD 96tpi	.32	.29	.28	.26
DSHD 1.6Mb	.52	.49	.48	.46

3½" BULK DISKS, ENVELOPES AND LABELS

SSDD	.69	.65	.63	.59
DSDD	.79	.75	.73	.69
DSHD	1.69	1.65	1.58	1.49

BRANDED DISKS FROM £4.90 per box

CHOOSE FROM ANY OF THE FOLLOWING BRANDS

JVC Verbatim. SONY 3M

BOXES OF 10	1-2	3-9	10+
5¼" SSDD 48tpi	5.80	5.40	4.90
5¼" DSDD 48tpi	6.20	5.80	5.40
5¼" DSDD 96tpi	9.50	9.20	8.80
5¼" DSHD 96tpi	9.90	9.60	9.00
3½" SSDD	10.90	10.20	9.90
3½" DSDD	12.50	11.80	10.90
3½" DSHD	27.50	26.95	26.00

STORAGE BOX WITH DISKS

25 x 5¼" DS-DD 96 Tpi with 50 capacity LOCKABLE STORAGE BOX	12.95
50 x 5¼" DS-DD 96 Tpi with 100 capacity LOCKABLE STORAGE BOX	19.95
20 x 3½" DS-DD 135 Tpi with 40 capacity LOCKABLE STORAGE BOX	21.95
40 x 3½" DS-DD 135 Tpi with 80 capacity LOCKABLE STORAGE BOX	38.95

All disks are certified 100% error free and are supplied with labels.

LOCKABLE STORAGE BOXES

UNBEATABLE PRICES

3½" 40 Disk Lockable Box	3.99
3½" 80 Disk Lockable Box	4.99
5¼" 50 Disk Lockable Box	3.99
5¼" 100 Disk Lockable Box	4.99

HARD CARDS

WESTN DIGITAL 20MB 65MS	195.00
WESTN DIGITAL 32MB 65MS	210.00
(Including XTREE Software	
SEAGATE 20MB 40MS	199.00
SEAGATE 32MB 40MS	220.00

38% FASTER THAN THE AVERAGE 65MS CARD

PRINTERS Panasonic

KX-P1180 9 PIN 192cps DOT MATRIX NEW!	199.00
KX-P1124 24 PIN 132 COL DOT MATRIX NEW!	279.00
KX-P1592 9 PIN 132 COL DOT MATRIX 180cps	259.00
KX-P1595 9 PIN 132 COL DOT MATRIX 240cps	365.00

HOW TO ORDER
By Telephone 0270 666616/0270 664236
By Post Address Below
By Fax 0270 665556
Personal Callers Welcome

HOW TO PAY
By Visa or Access Card
By Cheque with Bankers Card
By 30 Day Account – for Official Orders Only
By Cash

FAX-A-DISK 0270 665556

VISA

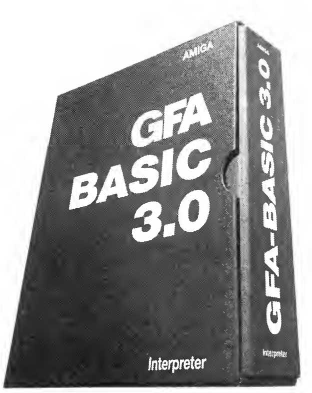
FREE DELIVERY To U.K. Mainland
ALL PRICES EXCLUDE VAT
OFFICIAL TENDERS & QUOTATIONS WELCOME

Access

DIAL-A-DISK 0270 666616

MEDIAWARE LIMITED
Unit 9 Huntsbank Industrial Estate,
Crewe Road, Wistaston, Crewe, Cheshire CW2 6QT
Telephone: 0270 666616/664236

MEDIAWARE



ADVERTISEMENT

"Programmer's paradise"

... Following our tests we can recommend GFA-BASIC AMIGA to everyone with almost no reservations ... GFA-BASIC AMIGA offers, all in all, 350 keywords. A lot for a BASIC programmer to try out ... There are so many loop and structure commands alone that one is not at all tempted to revert back to other programming languages such as PASCAL or MODULA-2 ... as a programmer you will be amazed ... GFA-BASIC is the answer to nearly all your wishes ... Evalution: outstanding product.
HAPPY COMPUTER, December 1988

The dialect of the future

... has made the AMIGA jump from a simple plaything to a genuine computer ... The definite plus, at least in the eyes of the ATARI ST owners, is now available for "the friend" as well ... GFA-BASIC 3.0 is one of the best interpreters currently available for 16 bit computers ... the large manual supplied in a ring binder is a joy for both the beginner and experienced programmer alike ...
AMIGA SPECIAL, January 1989

New friend

... The built-in editor is not only very fast but practical as well, the folding function in particular. It is possible to fold a procedure with a single keystroke, whereby only the procedure header remains visible. When needed, another keystroke will recall the body of the procedure again. The folding makes the logic of the program much clearer and one can find his or her way around BASIC programs much easier. Equally useful is the abbreviated input feature ... GFA has beaten AMIGA-BASIC hands down and is, in certain areas, even faster than an AC compiled module.
c't, February 1989

It was worth the wait

Eyerything needed for structured programming is available in the program flow control structures ... Even the access to system routines is elegantly resolved ... The speed of GFA-BASIC is good ... All in all, in terms of BASIC programming on the AMIGA the package makes a very solid and professional impression.
TOOLBOX, February 1989

The BASIC of the future

It is quite obvious that in the area of the BASIC languages a coup will take place ... All in all, the GFA Systemtechnik developers can be complemented that they will set new standards for the Amiga with their BASIC.
... An unusual feature is the ability to reserve a certain number of bytes inside a BASIC program with the INLINE command. This is used for insertion of machine language routines within the program itself. These routines can then be saved together with the BASIC program and are available immediately after subsequent loading ... This GFA interpreter will, without doubt, change the BASIC landscape on the AMIGA.
AMIGA-MAGAZIN, September 1988

Can BASIC programmers finally breathe a sigh of relief?

... even after working with it for only a short while, it shows itself in the best light. Fast scrolling and the ease of use are particularly apparent. The AMIGA-BASIC with its boring editor, tedious warning requesters and infuriatingly slow screen drawing is quickly forgotten.
... Program control: no BASIC has ever offered so many commands and options for structured programming ... There is no need to sort "by hand" anymore. QSORT (Quicksort) or SSORT (Shellsort) will sort the relevant fields as required.
The optimized routines make the programs run very quickly ... It is almost to be taken for granted that the building and control of menus is very simple ... The manual is supplied in an attractive box and the ring binder contains some 400 pages. It is subdivided into 12 subject orientated chapters. Each keyword is accompanied by an example showing its usage.
KICKSTART, January 1989

More than just an alternative – a BASIC for the professional

GFA-BASIC 3.0 is a new BASIC interpreter for the Commodore AMIGA. Its multipurpose keywords, assistance in structured programming and other characteristics make this inexpensive BASIC a serious development tool.
... With over 300 keywords and functions (not counting the operating system functions), on one side it has more features than all comparable BASIC dialects, and, on the other, thanks to its speed and structure (GFA-BASIC supports procedures and functions), it is a serious competition to other programming languages such as C or PASCAL.
... GFA-BASIC from GFA Systemtechnik is in our opinion the best BASIC interpreter for the Commodore AMIGA at this time. Its performance is yet to be surpassed ... Price/performance ratio: 5 points (Highest score).
CHIP, February 1989

Basically speaking

GFA has some unusual commands that are often just a quicker way to do something. For example if you want to increment a variable by one there are three ways to to it ... They're listed in order of increasing speed ... GFA-BASIC is a language for everyone ... thanks to the manual and advanced programmers can do some spectacular things by using the lower-level instructions and delving into the operating system.
ST/AMIGA FORMAT, March 1989

Price: £ 64.95

GFA Data Media
(UK) Ltd
Box 121
Wokingham
RG11 9LP

GFA
Data Media

GFA-BASIC 3.0 Interpreter
is available for both the
Amiga and the Atari ST.

Coming soon: Highspeed
GFA-BASIC 3.0 Compiler
for stand-alone programs.

Important: Ask your local
Atari Dealer for the upgrade
price from GFA-BASIC 2.0 to 3.0

ATARI ST and AMIGA

Sixteen Bit Superdeals from the Sixteen Bit Specialists!

CUSTOMERS PLEASE NOTE! When comparing prices remember ours include fast delivery by courier.

520 STFM Super Pack

£349.00

Inc VAT and Next Day Delivery

Super Pack includes:

- ★ 520STFM 512K Keyboard with Built-in 1 Megabyte disk drive and TV Modulator
- ★ £450 of games software including BUGGY BOY, TEST DRIVE, MARBLE MADNESS, WIZBALL and 17 more.
- ★ Organiser Business Software including WORDPROCESSOR, SPREADSHEET and DATABASE.
- ★ FREE JOYSTICK!
- ★ All leads, manuals PLUS MOUSE and free mains plug!

REMEMBER! Many ST's do not come with BASIC-ours come with ST BASIC REV D by Metacomco.

Also available with only one free game and no joystick or Organiser –

£269.00 inc.

1040STFM Super Pack

£439.00

Includes everything in the Atari 520 STFM Super Pack but with the 1 mega byte memory 1040 STFM Keyboard

1040STFM Business Pack

£439.00

Business Pack Includes:

- ★ Atari 1040STFM Keyboard with 1 meg memory and 1 meg built-in disk drive plus TV modulator.
- ★ £385 worth of Business Software including MICROSOFT WRITE word processor (£150), SUPERBASE PERSONAL Database (£60) and VIP PROFESSIONAL Lotus 123 Spreadsheet clone (£150), and Metacomco Basic (£25)
- ★ All leads, manuals and mouse

Mega 1 Business Pack

£529.00

Features:

- * Separate Keyboard and System Unit
- * All the Software included with 1040 STFM Business Pack

ACCESSORIES

Quickshot II Turbo Joystick 13.95
Competition Pro 5000 Joystick.....13.95
Competition Pro with Autofire......14.95
Konix Speedking Joystick 11.95
Red Mouse Mat with Amiga logo...6.95
Plain blue Mouse Mat....................5.45

Branded Memorex 3.5" DS DD Disks
Box of 10 ....13.95
Roll Top Disk box for 100
3.5" disks.......................................16.95
Amiga A501 1 Meg Expansion..139.99
Amiga A501 + Dragon's Lair......169.99

PRINTERS

Star LC10 including interface lead for ST/Amiga £229.00
Star LC10 colour including interface lead for St/Amiga...........£259.00
Citizen 120D including interface lead for ST/Amiga................£159.00

SEIKOSHA 80 COLUMN PRINTERS – AMAZING PRICES

Seikosha 9 pin NLQ including interface lead for ST/Amiga £139.00
Seikosha 24 pin LQ including interface lead for ST/Amiga £279.00

EXTERNAL DISK DRIVES

Atari SF314 1 Megabyte..£139.00
Amiga A1010 1 Megabyte £139.00
Cumana 1 Megabyte Atari or Amiga £99.95

Amiga A500 System 1

£365.00

Inc Vat and Next Day Delivery

System 1 includes:

- ★ Amiga A500 512K Keyboard with Built-in 1 Megabyte disk drive.
- ★ Free TV modulator worth £24.99 allowing you to use the Amiga with a normal TV.
- ★ Amiga BASIC, Amiga EXTRAS, Workbench PLUS the Amiga Step by step Tutorial.
- ★ All leads, manuals PLUS MOUSE and mains plug!

Amiga A500 System 2

£385.00

★ Amiga A500 System 1 PLUS £230.00 worth of software comprising 10 games

Amiga A500 System 3

£395.00

★ Amiga A500 System 1 PLUS £285 worth of software comprising 8 games and PHOTON PAINT graphics package + Workbench 1.3.

Amiga A500 System 4

WITH 500 FREE AIR MILES!

NEW!

£459.00

includes everything in our Amiga System 1 package PLUS SPRITZ Graphics Package, disk storage wallet for 25 disks, Who Framed Roger Rabbit, Nebulus, Starray PLUS 500 FREE AIR MILES, enough for a return trip to PARIS, AMSTERDAM OR BRUSSELS!

AMIGA 1 MEG!

£499.00

Announcing the new Amiga 1 meg-an A500 system 1 with fitted 1 megabyte memory expansion and clock card PLUS TV Modulator AND DRAGON'S LAIR a six disk 1 meg megagame!

AMIGA 1 MEG+

£519.00

Our Amiga 1 meg + also includes the £230 worth of games software normally given with our A500 System 2 Games Pack.

MONITORS

Commodore Amiga A1084 Stereo colour monitor inc lead £269.00
Atari SC1224 Colour Monitor inc lead..£259.00
Atari SM124 Mono Monitor including lead £104.00
Philips CM8833 stereo colour monitor incl lead for ST or Amiga......£249.00

CREDIT CARD ORDERLINE ☎ 0908 78008 (Mon-Sat 9am - 6pm)

To order either call the orderline above with your Credit Card details OR make a cheque or P.O. payable to Digicom Computer Services and send it with your order to the address below. *Callers are also most welcom at the address below*

We Accept EXPRESS VOUCHERS

DIGICOM

Unit 36, Wharfside, Fenny Stratford, MILTON KEYNES MK2 2AZ

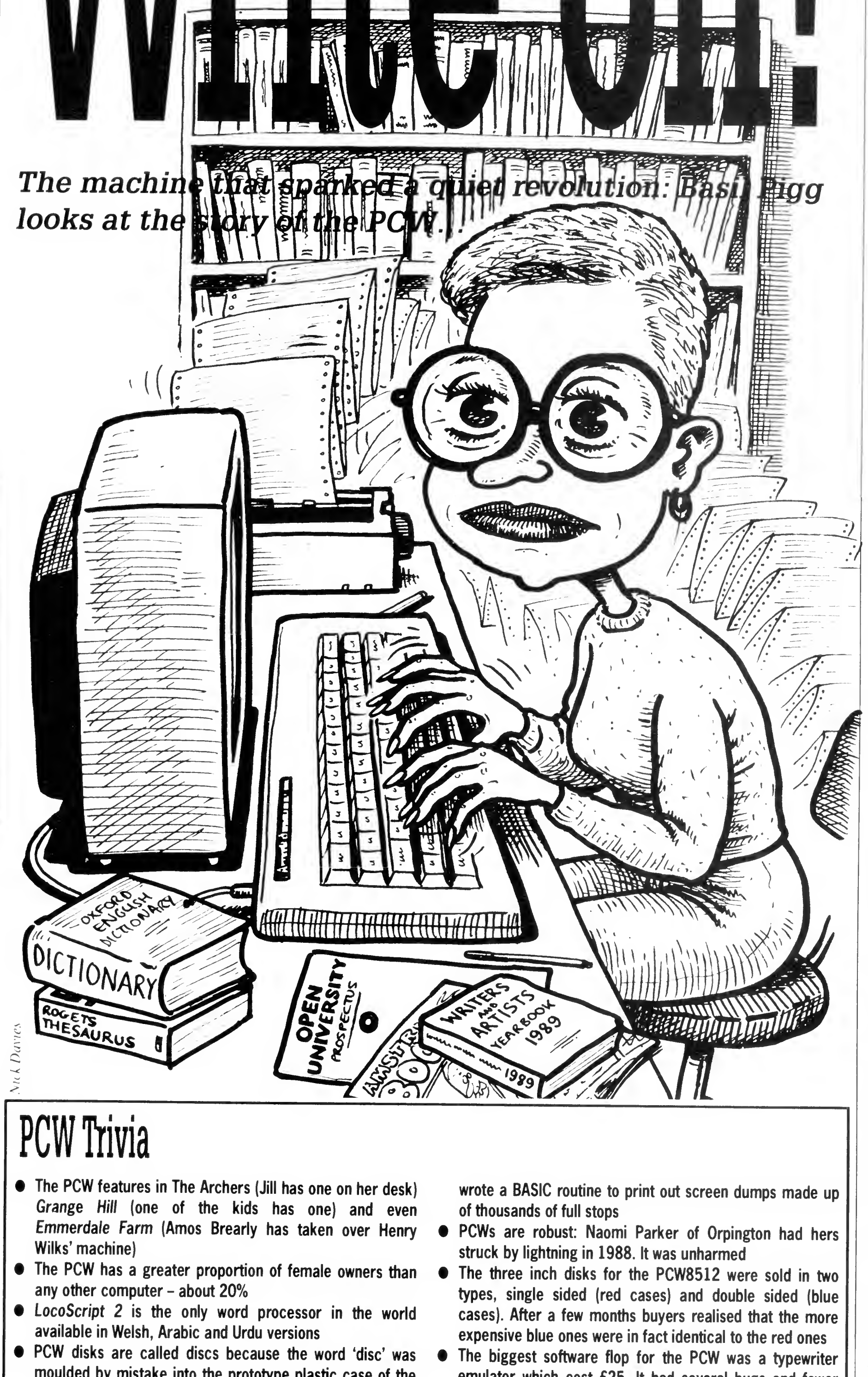
All prices include VAT and delivery by courier

Access

VISA

Write on!

The machine that sparked a quiet revolution: Basil Pigg looks at the story of the PCW.


OXFORD ENGLISH DICTIONARY
DICTIONARY
ROGETS THESAURUS
OPEN UNIVERSITY PROSPECTUS
WRITERS AND ARTISTS YEARBOOK 1989
1989
Nick Davies

If the Japanese hadn't borrowed Chinese characters to write their language with in 300AD, many things, including the PCW, would never have happened. Typewriters were virtually impossible to use as they required 2,000 keys, and all office correspondence was handwritten – until the advent of all-in-one word processors. These inexpensive computers with built-in software and printers swept the country in 1984, enabling every office and home user to produce printed, word processed output.

Alan Sugar, in one of his frequent visits to Tokyo, saw what was happening to the market and Saw That It Was Good. The typewriter replacement could be made to work in Britain too, he thought. In retrospect, it seems an obvious idea; many people want a computer almost exclusively to word process, but in 1984 this entailed buying a computer, monitor, printer and leads to connect them all up, finding a suitable word processing package, and finally configuring the system so that it actually works. Rather too much for the average typewriter user that formed the potential market. So, reasoned Sugar, put the lot together in a bundle, make it easy to use and they'll buy it in droves.

Which is what he did: a nice big 90x32 high-resolution screen, easy-to-use word processing software that would enable anyone to write a letter straight away, extra keys like WORD and LINE and PARA which move you to the next word, line or paragraph instead of the usual rigmarole of pressing [SHIFT] [EXTRA] backslash-P twice, cheap but reliable dot matrix printer – all connected together and set up so that all you needed was a plug and away you could go.

At the launch – a rather crass showbiz occasion whose sanity was saved by newscaster Richard Whitmore – the computer pundits laughed at the hardware on offer. What was this? A CP/M based machine, out-of-fashion Z80 processor, word processor no-one had heard of, three-inch disks... Amstrad, some of the papers and City institutions said confidently, had blundered. A donkey of a machine in a market of racehorses.

The machine sold in skiploads immediately. The cheap and trusty Z80 and CP/M system – together with Amstrad's non-nonsense cost and corner-cutting – had produced a word processing system that cost £399, one thousand or so less than the alternatives. The comparative slowness of the hardware didn't matter for the word processing jobs it was intended to do, where 99% of the time the processor is kicking its heels waiting for the next key press anyway.

Most important, the market everyone had confidently said wasn't there was buying the PCW in droves. Clergymen used it to prepare their parish newsletters; every freelance writer and budding novelist in the country bought one to store their works on disk; students and researchers found them invaluable to produce their essays and dissertations; small businesses had a smart typewriter they could afford for their smart correspondence; even computer hobbyists grudgingly bought it, recognising that the nice big screen and integrated set-up meant they could produce legible, laid out, easy-to-read copy with rather less trouble than their techie machines. As well as being a word processor, it was a good little comms machine, programming machine, general purpose micro...

On the game

Even games started to appear. Ocean brought out *Batman* and it stormed the market, opening things up to the extent that there are now over a hundred games for the PCW. *Hitch Hiker's Guide to the Galaxy*, *Tetris*, *Chess* and *Scrabble* remain the best selling games, though arcade games have never scaled the same heights as *Batman*. Perhaps, for the 'typical' PCW buyer who grew up in the sixties, *Batman* struck a chord. Chords of any type are clearly out on the PCW though, whose music chip is limited to a one-channel single-note mono beep, somewhere around B flat.

The original PCW8256 had one drive and 256K of memory – enough for letter writing – but it

PCW Trivia

- The PCW features in The Archers (Jill has one on her desk) *Grange Hill* (one of the kids has one) and even *Emmerdale Farm* (Amos Brearly has taken over Henry Wilks' machine)
- The PCW has a greater proportion of female owners than any other computer – about 20%
- *LocoScript 2* is the only word processor in the world available in Welsh, Arabic and Urdu versions
- PCW disks are called discs because the word 'disc' was moulded by mistake into the prototype plastic case of the CPC464 when design work started. It would have cost £200 to change it, so money-conscious Amstrad perpetuated the English spelling on their other CPCs and PCWs – to the delight of English purists
- The PCW has no conventional ROM at all. The character set on screen and printout are defined entirely from the software. The disk boot facility is contained in the printer control chip – a neat piece of space-saving design
- The PCW 9512 printer, being a daisywheel, cannot do screen dumps. One enterprising owner in Avon, however, wrote a BASIC routine to print out screen dumps made up of thousands of full stops
- PCWs are robust: Naomi Parker of Orpington had hers struck by lightning in 1988. It was unharmed
- The three inch disks for the PCW8512 were sold in two types, single sided (red cases) and double sided (blue cases). After a few months buyers realised that the more expensive blue ones were in fact identical to the red ones
- The biggest software flop for the PCW was a typewriter emulator which cost £25. It had several bugs and fewer features than the built-in typewriter mode on the *LocoScript* that comes free with the machine
- After Britain, the PCW sells most in France – hence the French writing on the box
- *LocoScript 2* can cope with all Russian, Greek and European languages (including Anglo-Saxon and Greenlandish) except for some regional variants of Macedonian and Tartar
- The naff nickname 'Joyce' comes from Alan Sugar's secretary, Joyce Caley

quickly became clear that many people wanted to use more than the plug-in-and-go *LocoScript* word processor that was free with the machine. CP/M, BASIC and a host of utilities (assemblers, debuggers, comms packages, the famous PIP) came too, thrown in almost as an afterthought. But it led to *SuperCalc*, *dBase*, *WordStar*, *Sage Accounts* and dozens of other 'serious' packages coming out.

The machine proved popular with small businesses, and the demand grew for more memory and a high-capacity drive (720K as opposed to the 180K of the 8256). These duly arrived with the PCW 8512, a PCW8256 with the extras inserted in the gaps thoughtfully left in the original.

The major criticisms of the PCW were the slowness of *LocoScript* (which could take as much as ten minutes to go from the end of a very long document to the beginning) and the dot matrix output, which was a bit naff for professional use. The PCW9512 followed with 512K of memory, mail merge and spell check programs, and *LocoScript 2* – a souped-up version of the original which not only worked faster, but supported any printer in the world. The jokey, no-nonsense and occasionally cynical style of the magazine *8000 Plus* established it as the favourite of PCW owners.

The PCW today is still selling to "vicars and journalists" (the archetypical PCW owners as seen by Locomotive) and everybody else, and the machine has generated a whole sub-culture. Most PCW owners have never had a computer before, and don't even know that what they have is a computer; they refer to it as 'my Amstrad' as if oblivious of the several thousand other makes of computer in the world.

And quite rightly too; the PCW is seen as a machine to do a job rather than a toy, and the fact that around 95% of users work exclusively from *LocoScript* bears this out.

Writer's unblock

New software has reduced to a trickle – most of the packages that can be written have been – but the PCW shows no signs of slowing up. It has transformed a whole section of society; people who thought they'd never be caught with New Technology have bought them and found their lives changed, with everything done on their faithful 'Amstrad' – letters, essays, reports, business documents, accounts, newsletters, posters, memos, invoices. Most of us now can't write a note to the milkman without printing it out in NLQ 12 pitch double spaced with one inch margins all round.

Writers and journos especially have taken to it with disbelieving gratitude. See, you can actually change text on screen, save it to disk, and print it out when you like! But behind the wide-eyed wonder at how the latest novel can all fit on a single disk and how *LocoSpell* suggests that 'Said 'Al-Rahmani' should be replaced by 'sandwich', there is an important lesson for other manufacturers. The PCW is not a remarkable machine in itself, but it has sold a million. PCW owners are generally not interested in technology for its own sake, only for what it can do for them. They have spent £500 million to prove it.

Alan Sugar has made several mistakes, a lot of enemies (particularly journalists) but also very large amounts of money, £420 million at the last count. And he's done it by taking the technology to the market in a form the market wants, not by getting caught up in the race to provide faster processors, more expensive software and higher spec machines. New technology has reached a generation of people who would otherwise have dismissed computing as a crazy techie domain, and the effects are here to stay. The triumph of the PCW in the late eighties has been a victory not for Amstrad, but for the ordinary man and woman in the street. ●

Box of dates

1984	Alan Sugar visits Tokyo and sees the popularity of cheap personal word processors. Idea of PCW born. Project begins in Autumn with design team MEJ and software writers Locomotive
1985	PCW 8256 launched in August to derision from the computer industry who label it a flop
1986	PCW 8512 follows in June; sales already through 200,000 by end of the year
1987	PCW 9512 launched on September 23rd; all PCWs selling steadily in quantity. £50 trade-in offered on old typewriters for 9512s; ad campaign on TV features 'Professor' Stanley Unwin
1988	German 8512s on sale in England in November, shipped over to meet demand, can't take interfaces or mice; Amstrad first ignore the problem, then relent and give free conversion apparatus
1989	Sales reckoned by pundits to be over a million worldwide and all models selling as fast as ever. Ad campaign for 9512 restarts

The bandwagon rolls on

The PCW is available in any high street shop

- **PCW8256: £349+VAT.** Includes keyboard, integrated printer, monitor, *LocoScript* word processing software, CP/M, programming utilities, comms software, etc. One 180K disk drive, 256K memory. Supplied *Mallard BASIC* is excellent implementation with JETSAM commands for writing databases. Expansion port for RS232 interface
- **PCW8512: £399+VAT.** As above but 512K memory and additional 720K disk drive
- **PCW9512: £449+VAT.** Daisywheel printer, *LocoScript 2*, mail merge and spell checking software, CP/M and programming utilities, BASIC etc. Single 720K disk drive, 512K memory. Built in printer port. Expansion slot for RS232

SECTOR SOFTWARE
Established 1985
0772 454328

SPECIAL ANNOUNCEMENT
TO READERS OF
NEW COMPUTER EXPRESS

Sector are now licenced credit brokers and can supply Commodore Amigas, Printers, Hard Disks and any orders over £100.00 on 6 to 36 months terms.

Written details available on request.
See Page 36 for part of our range

SECTOR SOFTWARE
39 WRAY CRESCENT
ULNES WALTON
LEYLAND
LANCASHIRE
PR5 3NA
TEL: 0772 454328 FAX: 0772 454680

We Accept EXPRESS VOUCHERS
Access
VISA

01-574 1293

DATANIX LTD

We Accept EXPRESS VOUCHERS

SPECIAL OFFER TO ALL READERS

The New MT81 printer

Our Price £119.00 + VAT

From Mannesmann Tally the strongest printer range in the world

Mannesmann Tally leads on quality now it leads on price

Why we think you should be looking at it

★ Unbelieveable price/performance ratio
★ 130 CPS correspondence quality
★ Ease of connectivity
★ Epson FX85 and IBM proprinter compatible
★ Flexible paper handling
★ Paper parking for cut sheet feed
★ Automatic sheet feeder option
★ Input buffer 8KB

The price leader for only **£119.00 + VAT.** Use your Computer Express voucher and get **£4.00** off this purchase.
Normal R.R.P **£149.00 + VAT.**

Parallel connecting cables for Atari/Amiga/Acorn BBC/ Archimedes/IBM PC XT AT and compatibles/Apricot **£7.00 + VAT.**

Sheet Feeder....£58.00 + VAT
Ribbon Carbon M/S original....£2.95 + VAT
Fanfold Paper 11*9.5" 2000 sheets....£14.00 + VAT
Fanfold Paper A4 2000 sheets....£18.00 + VAT
A4 60 GMS single sheets 500 sheets....£5.00 + VAT
Add 15% VAT. Next Day Delivery £7.00 + VAT

DATANIX LTD, 17 REGINA ROAD, SOUTHALL MIDDX
How to order: Send cheque, PO, Access/Visa details with your vouchers.
Phone 01 574 1293 with your Access/Visa details.
Official Govt, Educ and PLC orders welcome.
Showroom open 6 days Mon to Sat 9.30am to 5pm.
VISA
Access

ATARI

We Accept EXPRESS VOUCHERS

HOMESOFT (UK)

Software and Hardware

We Accept EXPRESS VOUCHERS

AMIGA

ALMOST PROBABLY THE CHEAPEST MAIL ORDER /RETAILER IN EUROPE

SPECIAL PACK

Complete with Standard A500, Kickstart 1.3, Workbench 1.3 Tutorial Disks , Basic + Mouse. Also FREE TV Modulator, Photon Paint Art Package, Mouse Mat, Mouse Bracket, 10 DS /DD Disks in Library Case. PLUS the Following Games: Space Harrier, Super Hang-On and Gauntlet II for

ONLY £399.00

Philips CM8833 Medium Resolution Stereo Monitor **ONLY £235.00**	Commodore 1084S Medium Resolution Stereo Monitor **ONLY £255.00**
Cumana External 1MB Drives ST or Amiga **ONLY £95.00**	WATCH THIS SPACE: **PC ENGINE** COMING SOON!!

COMMODORE AMIGA 500

COMES COMPLETE WITH
KICKSTART 1.3 TUTORIAL DISK, BASIC,
MOUSE AND WORKBENCH 1.3
PLUS FREE T.V. MODULATOR AND ART PACKAGE

ONLY £355.00

OFFER ONLY WHILE STOCKS LAST
OFFICIAL PRICE INCREASE AS OF 31/3/88

AMIGA 500	*AMIGA 500*
Pack 6 Philips CM8833 Med Res Monitor Games Starter Pack with Modulator ONLY £585.00	Pack 7 Commodore 1084s Med Res Monitor Games Starter Pack with Modulator ONLY £615.00

PERIPHERALS

Competition Pro extra Joystick	£11.50
Competition Pro 5000 (Black) Joystick	£11.35
Cheetah 125+ Joystick	£6.40
Cheetah Starfighter Joystick	£11.50
Quickshot II+ Joystick	£8.90
Quickshot II Turbo Joystick	£10.55
Konix Speedking Joystick	£9.70
Konix Speedking Joystick + Autofire	£10.20
Konix Navigator Joystick	£12.50
3.5" DS/DD Disks per Ten	£9.50
3.5" DS/DD Disks per Fifty	£47.00
3.5" DS/DD Disks per Ten in case	£10.50
100 Capacity 3.5" Disk Box	£7.90
50 Capacity 3.5" Disk Box	£5.50
200 Capacity Posso Dleuxe 3.5" Box	£14.99
100 Capacity 5.25" Disk Box (While Stocks Last)	£4.50
3.5" Head Cleaner Kit (Deluxe)	£3.50
Twin Joystick Extension Lead	£4.50
Quality Mouse Mats	£4.50
Mouse Bracket	£2.50
Amiga Clear Perspex Dust Cover	£4.50
Four Player Joystick Adapter	£4.50
Abacus Learn Computing Books (S.A.E. for Details)	

16 BIT SOFTWARE	AMIGA	ATARI
1943 Battle of Midway	13.90	13.90
3D Pool	11.70	11.70
4th & Inches	13.90	13.90
4 x 4 Off Road Racing	13.90	13.90
Amiga Gold Hits	16.80	--.--
Arcade Force Four	--.--	16.80
Action Service	11.70	11.70
Action ST	--.--	13.90
Ballistix	11.70	11.70
Balance of Power 1990	14.70	14.70
Battlechess	16.80	--.--
Barbarian II	11.70	11.70
Batman	14.70	11.70
Battlehawks 1942	14.70	14.70
Blasteroids	14.70	11.70
Bombuzal	14.70	14.70
Butcher Hill	13.90	13.90
Chaos Strikes Back	--.--	9.70
Captain Blood	14.70	14.70
Captain Fizz	9.70	9.70
Crazy Cars II	14.70	14.70
Custodian	13.90	13.90
Cybernoid	13.90	13.90
Dark Fusion	13.90	13.90
Double Dragon	11.70	11.70
Dream Zone	14.70	14.70
Dragon Ninja	14.70	12.70
E. Weaver Baseball	13.90	--.--
Elite	14.70	14.70
Empire Strikes Back	11.70	11.70
Espionage	11.70	11.70
Five Star Compilation	--.--	14.70
Fantavision	29.00	--.--
Flight Simulator II	23.90	23.90
Flying Shark	14.70	14.70
Fright Night	11.70	11.70
Galdregon's Domain	11.70	11.70
Galactic Conqueror	14.70	14.70
Games - Summer Ed.	13.90	13.90
Ghosts 'n' Goblins	13.90	13.90
Helter Skelter	9.70	9.70
H K M	10.99	10.99
Hostages	14.70	14.70
International Karate +	14.70	11.70
Iron Lord	16.80	16.80
Japan Scenery Disk	12.70	12.70
Jet	23.90	23.90

16 BIT SOFTWARE	AMIGA	ATARI
Joan of Arc	12.70	12.70
Kennedy Approach	14.70	14.70
Kenny Dalglish Soccer	11.70	11.70
Kristal	17.70	17.70
Land of Legends	17.70	17.70
Last Duel	10.99	10.99
Lancelot	11.70	11.70
Munsters	11.70	11.70
Nebulus	13.90	13.90
Neather world	13.90	13.90
Nineteen Part One	11.70	11.70
Orbiter	14.70	14.70
Outrun Europa	10.99	10.99
Overlander	14.70	11.70
Pacmania	11.50	11.50
Pioneer Plague	14.70	--.--
Pools of Radiance	15.90	15.90
President is Missing	14.70	14.70
Prison	11.70	11.70
Project D Backup Tool	29.50	--.--
Purple Saturn Day	14.70	14.70
Rambo III	14.70	11.70
Return of the Jedi	11.70	11.70
Renegade III	14.70	11.70
RoadBlasters	16.80	16.80
Robocop	14.70	11.70
R-Type	14.70	11.70
Scenery Disk no 7	12.70	12.70
Scenery Disk no 11	12.70	12.70
SDI (Activision)	11.70	11.70
Silkworm	11.70	11.70
Skrull	14.70	14.70
Shoot-em Up Con. Kit	14.70	14.70
Star Wars	11.70	11.70
Stormtrooper	11.70	11.70
Starglider II	14.70	14.70
Sword of Sodan	17.70	--.--
STOS	--.--	19.90
STAC	--.--	29.90
Sundog - Frozen Legacy	--.--	8.90
Three Stooges	17.70	17.70
Triad	17.70	17.70
Tiger Road	13.90	13.90
Techno Cop	13.90	13.90
TV Sports Football	17.50	--.--
Thunderblade	14.90	12.90
Turbo Cup	11.70	11.70

16 BIT SOFTWARE	AMIGA	ATARI
Ultimate Golf	13.90	13.90
U.M.S.	14.70	14.70
Virus	11.70	11.70
Vindicators	11.70	11.70
Victory Road	14.70	11.70
Weird Dreams	14.70	14.70
Western Europe Scenery	12.70	12.70
Worldclass Leaderboard	13.90	13.90
Who Framed R. Rabbit	14.50	--.--
Zany Golf	16.80	16.80
Zoom	11.70	--.--
Zak McKracken	16.80	16.80
LED Storm	13.90	13.90
Lombard RAC Rally	14.70	14.70
Advanced Ski Simulator	11.70	11.70
Advanced Rugby Sim.	11.70	11.70
Black Tiger	16.80	13.90
Cosmic Pirate	11.70	11.70
Crack II (Dugger)	11.70	11.70
Dragonscape	11.70	11.70
Hybris	17.70	17.70
I Ludicrus	14.70	11.70
Inc. Shrinking Sphere	14.70	11.70
Populous (EA)	16.80	16.80
Scorpion	14.70	14.70
Trained Assassin	14.70	14.70
WEC Le Mans	14.70	11.70
Manhattan Dealers	14.70	14.70
Menace (Draconia)	11.70	11.70
Mini Golf	13.90	13.90
Microprose Soccer	14.70	14.70
Millenium 2.2	11.70	11.70
Motor Massacre	13.90	13.90

GOODS DESPATCHED
WITHIN 12 HOURS
SUBJECT TO AVAILABILITY

VISA

Access

AMIGA A500 ONLY

ATARI 1040 STFM
£445.00
BUSINESS PACK

ST MOUSE
£22.50

REAL TIME CLOCK
£42.50

ATARI SM 124
HI RES MONITOR
£120.00

ATARI SC 1224
MED. RES MONITOR
£370.00

COMMODORE MPS 1230 DOT MATRIX PRINTER ONLY £130.00 inc Lead

ST CLOCK CARD
(Internal) £24.90

ST CLOCK ROM
(External) £24.90

OPEN
MON FRI 9AM-8PM
SAT 9AM-4PM
CALLERS WELCOME

COMMODORE A501 1mb EXPANSION CARTRIDGE **£130.00**	COMMODORE A520 T.V. MODULATOR **£19.99**
WORKBENCH V1.3 **£14.99**	1352 AMIGA MOUSE **£31.50**
COMMODORE C64 HOLLYWOOD PACK **£135.99**	COMMODORE C64 ENTERTAINMENT PK **£178.99**

SPECIAL OFFERS

	AMIGA	ST
Falcon	£17.50	£14.50
Super Hang On	£14.70	£11.70
Dungeon Master	£14.70	£14.70
Gauntlet II	£15.90	£12.90
TV Sports Football	£17.50	--.--
Denaris	£13.20	--.--
Speedball	£14.50	£14.50
California Games	£12.50	--.--
Dragon's Lair	£29.50	--.--
F16 Combat Pilot	£14.50	£14.50
Rocket Ranger	£17.50	--.--
Baal	£11.60	£11.60
Afterburner	£14.70	£11.70
F.O.F.T.	£17.70	£17.70
Games Winter Edition	£13.90	£13.20
Interceptor (EA)	£16.60	--.--
Heroes of the Lance	£15.90	£15.90

ACCESS/VISA
CARD HOTLINE
0772 - 452414

All prices include VAT and Postage.
Hardware included.
Europe Add £2.00 per item
Express Next Day
Courier service Available

HOME
SOFT
UK

UNIT 13
CENTURION WAY IND. ESTATE
LEYLAND, PRESTON
LANCASHIRE. PR5 2GU
TEL: 0772 - 452414 - Sales
- 455685 - Advertising

FOR NEW RELEASES AND ITEMS NOT LISTED PLEASE PHONE US TODAY.
NEW TITLES WILL BE DESPATCHED ON CONFIRMED DATE OF RELEASE.

GOODS SUBJECT TO AVAILABILITY AND CHANGE WITHOUT PRIOR NOTICE.
OFFER ENDS 31st JULY 1989. HOMESOFT (UK) CARES FOR ITS CUSTOMERS.

Mac-sim-ise your ST

Drooling after a Macintosh but with dosh only for an ST? Drool no more – with Hisoft's* Spectre 128 *Mac emulator you can have the best of both worlds. Andy Storer investigates...

Spectre 128 ● Hisoft ● £129 without ROM, £199 with ROM ● Hisoft ● Tel: 0525 718181

The Macintosh range of personal computers is popularly thought of as providing top-notch, user-friendly software for desktop publishers. Sure, there's a full range of other applications available, but you may as well add a nought to the end of every price quoted for the same package on another machine.

Macs are only famous for DTP, and at this they excel. But even then they're too expensive, the screen's too small and the software a rip-off. You'd save money by flying to New York and importing one. So the release of an emulator to allow you to run all that fabulous software on machines costing a fraction of the price has got to be worth checking out.

After all, a basic Mac Plus with single floppy costs over £1,350; A basic ST, £300. But here we come to the first drawback. *Spectre 128* will only run on STs with 1Mbyte or more of RAM and, despite documentation to the contrary, only those with mono monitors. But even though that's at least £600 for starters plus the £200 for *Spectre 128* itself, you'd still be quids in.

But compatibility and performance are more important than price. You don't want to save £500 only to find you can only run a fraction of the software at a fraction of the speed. On both counts, *Spectre* scores well. Initial tests point to something in the order of a 20% increase in speed, even with the larger screen displays, and a high degree of compatibility. The manufacturers claim it will run all Mac software, except those applications specifically designed for the 68020-based Mac II. Sounds great! There's only one set-back to all this – and it's major. *Spectre 128* comprises a ROM cartridge containing a set of 128k Mac Plus ROMS, *Transverter* file transfer programs and *Spectre* emulator disk. Before attempting to get the package up and running you have to transfer all the Macintosh programs you want to run on the ST into a form *Spectre* can read. These must include Mac systems files which the Mac doesn't hold on ROM.

You have to link a serial lead between the two machines, both running the supplied comms software, and wait for what seems like an eternity while the Mac software is ported onto disks previously formatted by *Spectre*. This format can be described as exclusive, since neither the ST or the Mac can read or write to it; it's designed solely as a interim format that will allow an ST running *Spectre* to read Mac applications and data in binary form.

Life after death?

Spectre 128 is really a new version of the Mac emulator for the ST – *Magic Sac* – released in early '86. This was the first attempt at emulation, and was beset with bugs throughout its versions. *Spectre 128* is *Magic Sac* risen from the dead. Hence the name. You might think the author of the manual to be a little off-world too – some of its passages have to be seen to be believed. Everything from cosmic rays to Neil Young surfaces in the way-out ramblings only true Californian lifestyles can produce. But if you manage to suspend disbelief long enough, you'll find it an informative insight into the world of the Mac.

Hey Mac, A-Max!

Via Entertainment International on 0268 541126, Readysoft is about to release a Mac emulator for the Amiga 500, 1000 and 2000. Unlike *Spectre 128*, you'll have to supply your own Mac ROMS, which'll mean 'talking quietly' to third party suppliers, since Apple are – to say the least – reluctant to part with them. However, *Max* will allow Mac format disks to be used directly during Mac emulation and, ironically, *Spectre* disks too! If you track down 128K ROMS you'll even be able to run *HyperCard* and some 68020 applications.

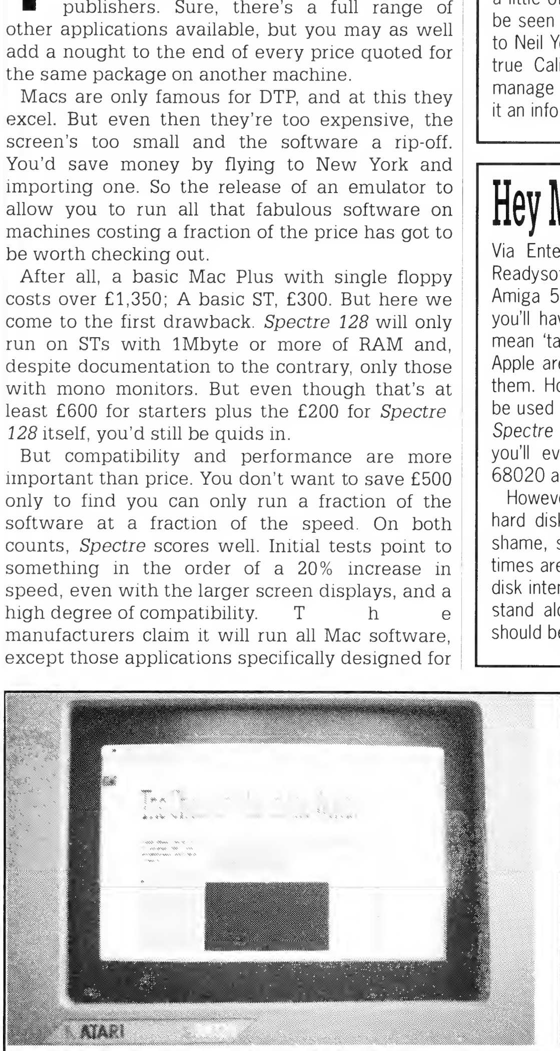
However unlike, *Spectre* you won't be able to run a hard disk whilst in Mac emulation mode. This is a shame, since on the ST *Spectre*'s hard disk access times are faster than those of Apple's own and make disk intensive programs fly along. *A-Max*, though, will stand alone as a Mac emulator, so at £134.50 it should be well worth a look. Full review soon.

It's here where the problem lies – and will hopefully be addressed in version two of the package. Supposing you successfully port over all your favourite Mac applications and get them up and running, prepare to be amazed at their speed and increased versatility on your ST. You can write some text in *MacWrite* and import it into a DTP package like Quark *Xpress* for laying out with graphics and pictures.

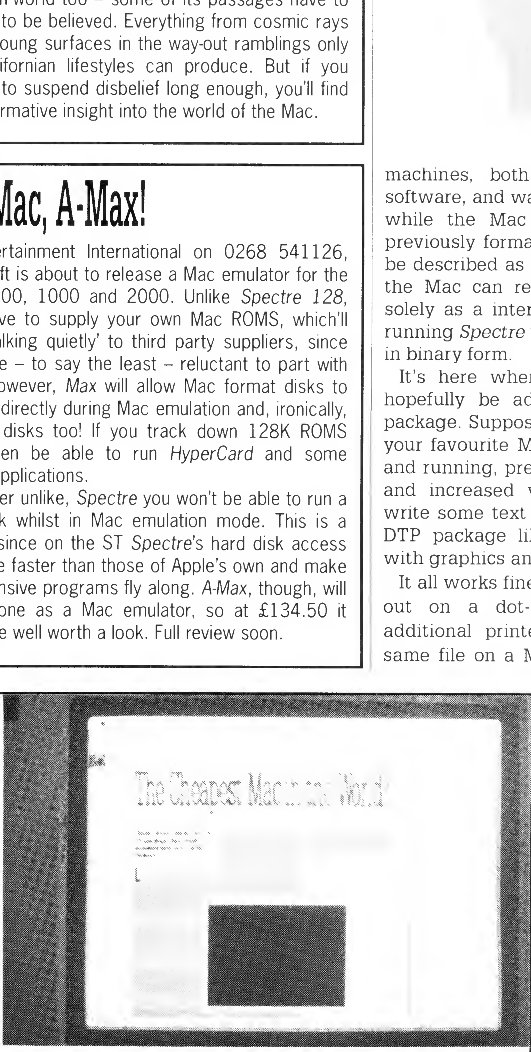
It all works fine. Until you either want to print it out on a dot-matrix printer, which requires additional printer drivers or, crucially, run the same file on a Mac where you know you should easily be able to print it out on laser. Apple Laserwriters won't run off an ST. What you'll need to do is port the file back over a serial link again, as a Mac won't be able to read it straight off.

So without regular access to a Mac, *Spectre*'s not a lot of use. But if you already have a Mac and want to expand your operation, then *Spectre*'s a godsend. For less than half the price you could set up a series of STs as simple dumb terminals to emulate as big a Mac network as you require.

✪✪✪✪



• Quark XPress running on the ST: The likeness is uncanny, and speed is slightly up on the Mac Plus



• The same application on the Mac II. Full laserwriter compatibility and much faster – but also upwards of £5,000...

PC PORTABLE PRICE BLITZ

SHARP PC7000

80C88-2, 7.37mhz 2x5.25 F/disk Backlit Super Twist LCD640X200 Pixels 320K Onboard (Exp)
PC7000 £349.00 + VAT
Last remaining ones - (Tatty Boxes!) but otherwise perfect
£299.00 + VAT

SHARP PC4501

80188 PRC/SS (7.16Mz) 1x3.5 FDD (45001) 2x3.5 FDD (4502) illuminated Super Twist LCD 1 x Serial, 1 x Parallel Port 1 x Ext 5.25 FDD Port lead bat PSU.and AC Adpt
PC4501 £399.00 + VAT
A few limited of ex-display (Tatty Boxes!) £349.00 + VAT

We Accept
EXPRESS
VOUCHERS

COMING SOON
HARD DISK KITS FOR THE PC4501

20 MEGABYTE HARD CARDS FROM £175.00 +VAT

CHEAP HARD DISKS FOR APPLE MAC - CALL US FOR DETAILS

UPGRADES PC7000

Carry Case	£70.00
128K	£30.00
Colormon Adaptor	£135.00

ALL PRICES + VAT AND CARRIAGE AT £7.00

UPGRADES PC4501/2

Colormon Adaptor	£130.00
1 Meg Eprom Card	£29.00
Carry Case	£50.00
128K Expansion	£45.00
128K Kit	£30.00
3.5 Internal F/Disk (PC4501)	£80.00

2-BIT COMPUTERS
26 28 BOWESFIELD LANE, STOCKTON,
CLEVELAND. TS18 3ER.
TEL: 0642 604768
B/card Access CWO
Don't delay limited quantities
+ vat and carriage £7.00

MEDIA GOLD

We Accept
EXPRESS
VOUCHERS

Atari ST and CBM Amiga, Public Domain and Software Specialist

Guaranteed 72 hour turn around
On all Software available

For FREE membership to the GOLD CLUB simply purchase any of the titles listed below from us. Gold membership means you will get an extra discount from our listed prices (which are already good value), you will also receive our P.D. Catalogue for ST or Amiga

ATARI ST

Ballistix	£15.00
Barbarian II	£15.00
Custodian	£15.00
F.O.F.T	£23.00
Prison	£15.00
Falcon	£18.50
LED Storm	£15.00
Baal	£15.00
Lombard Rally	£18.50
Vindicator	£15.00
Captain America	£6.50
The Deep	£15.00
I.S.S.	£15.00
Realm of the Trolls	£15.00
Steve Davis Snooker	£15.00
Blasteroids	£15.00
Run the Gauntlet	£15.00
Last Duel	£11.50
Road Blasters	£15.00
Leisure Suit Larry II	£18.50
Zak McKracken	£18.50
Raffles	£15.00
War in Middle Earth	£15.00
F16 Combat Pilot	£18.50
Gunship	£18.50
Pac-Land	£15.00
Real Ghostbusters	£15.00
Police Quest I	£15.00
Police Quest II	£18.50
Leisure Suit Larry I	£15.00
Chuckie Egg II	£15.00
Borrodino	£23.00

COMMODORE AMIGA

Super Hang On	£18.50
Denaris	£15.00
Precious Metal	£18.50
I.S.S.	£18.50
H.K.M.	£11.50
Tiger Road	£15.00
Road Blasters	£15.00
Airball	£15.00
Realm of the Trolls	£18.50
Slipstream	£15.00
Baal	£15.00
Dragon's Lair	£33.00
Kennedy Approach	£18.50
Operation Wolf	£18.50
Blasteroids	£18.50
Ringside	£18.50
Batman	£18.50
Prison	£15.00
War in Middle Earth	£15.00
Fourth and Inches	£15.00
Steve Davis Snooker	£15.00
Balance of Power 1990	£18.50
Knight Hawk	£15.00
Custodian	£15.00
Pac-Land	£15.00
Run the Gauntlet	£18.50
Hybris	£18.50
R-Type	£18.50
Zak McKracken	£18.50
Prospector	£18.50

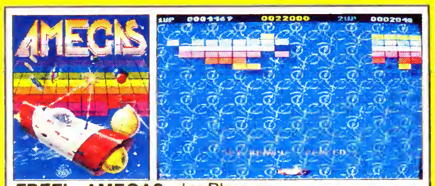
SPECIAL OFFER
3" Disks in Stock
10 DSDD 3" Only £19.95
All disks include a FREE Library Case

We also have a large P.D. Library for ST and Amiga, price at only £2.50 per disk.
All software is available at time of going to press, any title not yet released can be ordered. All our orders are despatched by first class post (UK P&P included), Overseas add £3.50. Goldclub membership is £3.00 without a purchase. Access orders taken and despatched within 24 hours.

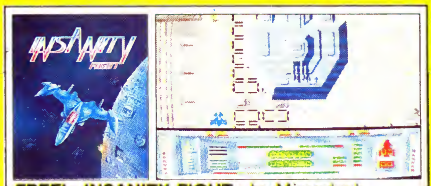
Access

Media Gold Access Orderline 0532 304384
Dept. NCE, Marcon House, Wyther Lane, Kirkstall, Leeds, LS5 3BT.
Written any P.D.? Send it in to us.

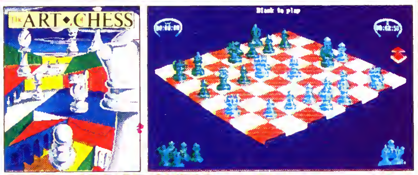
FREE! TENSTAR PACK
WORTH OVER £229!



FREE! - **AMEGAS** - by Players



FREE! - **INSANITY FIGHT** - by Microdeal



FREE! - **ART OF CHESS** - by SPA

FREE! - **MERCENARY COMP** - by Novagen

BARBARIAN
BARBARIAN

FREE! - **BARBARIAN, ULT WARRIOR** - by Palace

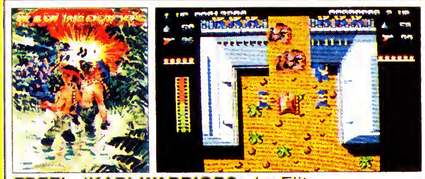
TERRORPODS

FREE! - **TERRORPODS** - by Psygnosis

FREE! - **BUGGY BOY** - by Elite

THUNDERCATS

FREE! - **THUNDERCATS** - by Elite



FREE! - **IKARI WARRIORS** - by Elite

WIZBALL
WIZBALL

FREE! - **WIZBALL** - by Ocean

Commodore AMIGA

AMIGA 500
ONLY
£3.34 PER WEEK
RETURN COUPON FOR DETAILS

£346.95

+VAT=
£399

INCLUDES FREE UK DELIVERY

The Amiga 500 is one of a new breed of technologically advanced computers, which are now emerging as the new standard for home computing, based around the new Motorola 68000 chip. The A500 has 512K RAM and a 1Mbyte double sided disk drive built-in. It can be connected directly to a wide range of monitors, or to a domestic TV set through a TV modulator. Designed with the user in mind, the A500 features a user friendly WIMP environment and comes supplied with a free mouse. And, when you buy your Amiga from Silica Shop, the UK's No1 Amiga specialists, you will experience an after sales service that is second to none, including a technical support helpline and free newsletters and price lists. Return the coupon below for our current information pack, which will give details of the Silica service and the very latest Silica Amiga offers. E&OE

WHY SILICA SHOP?

Before you decide when to buy your new Commodore Amiga computer, we suggest you consider very carefully WHERE you buy it. There are MANY companies who can offer you a computer, a few peripherals and the top ten selling titles There are FEWER companies who can offer a wide range of products for your computer as well as expert advice and help when you need it There is ONLY ONE company who can provide the largest range of Amiga related products in the UK, a full time Amiga specialist technical helpline and in-depth after sales support, including free newsletters and brochures delivered to your door for as long as you require after you purchase your computer That one company is Silica Shop We have been established in the home computer field for ten years and can now claim to meet our customers requirements with an accuracy and understanding which is second to none Here are just some of the things we can offer you

THE FULL STOCK RANGE: The largest range of Amiga related peripherals, accessories, books and software in the UK

AFTER SALES SUPPORT: The staff at Silica Shop are dedicated to help you to get the best from your Amiga.

FREE NEWSLETTERS: Mailed direct to your home as soon as we print them, featuring offers and latest releases.

FREE OVERNIGHT DELIVERY: On all hardware orders shipped to Silica Shop customers within the UK mainland

PRICE MATCH PROMISE: We will normally match our competitors offers on a 'same product same price' basis

FREE TECHNICAL HELPLINE: Full time team of Amiga technical experts to help you with your technical queries.

But don't just take our word for it. Complete and return the coupon below for our latest Amiga literature and begin to experience the Silica Shop specialist Amiga service.

PHOTON PAINT PACK

A500 Computer	**£399.99**
TV Modulator	**£24.99**
Photon Paint	**£69.95**
TenStar Pack	**£229.50**
TOTAL RRP:	**£724.43**
LESS DISCOUNT:	**£325.43**
PACK PRICE INC VAT**:**	**£399**

1084S MONITOR PACK

A500 Computer	**£399.99**
1084S Colour Monitor	**£299.99**
Photon Paint	**£69.95**
TenStar Pack	**£229.50**
TOTAL RRP:	**£999.43**
LESS DISCOUNT:	**£350.43**
PACK PRICE INC VAT**:**	**£649**

FREE FROM SILICA

When you buy the Amiga 500 from Silica Shop, you will not only get a high power, value for money computer, we will also give you some spectacular free gifts. First of all, we are now including a TV modulator with every A500 stand alone keyboard, so you can plug your Amiga straight into your TV at home (the modulator is not included with the A500+A1084S pack as it is not required for use with monitors). Secondly, we have added a free copy of Photon Paint, an advanced graphics package with an RRP of £69.95. Last (and by no means least!), so that you can be up and running straight away, we are giving away the sensational TENSTAR GAMES PACK with every A500 purchased at Silica Shop. This pack features ten top Amiga titles which have a combined RRP of nearly £230! Return the coupon for details.

FREE TENSTAR PACK

When you buy your Amiga 500 from Silica Shop, we want to make sure you get the best deal possible. That is why we are giving away the TENSTAR GAMES PACK worth nearly £230, absolutely FREE with every A500 purchased from us. The TenStar Games Pack includes ten titles for the A500, each individually packaged in its own casing with instructions

Amegas	**£14.95**
Art Of Chess	**£24.95**
Barbarian, Ult Warrior	**£19.95**
Buggy Boy	**£24.95**
Ikari Warriors	**£24.95**
Insanity Fight	**£24.95**
Mercenary Comp	**£19.95**
Terrorpods	**£24.95**
Thundercats	**£24.95**
Wizball	**£24.95**
	£229.50

TOTAL RRP: £229.50 INC VAT

DO YOU OWN AN AMIGA?

If you already own an Amiga computer and would like to be registered on our mailing list as an Amiga user, let us know We will be pleased to send you copies of our price lists and newsletters FREE OF CHARGE as they become available. Complete the coupon and return it to our Sidcup branch and begin experiencing a specialist Amiga service that is second to none

SILICA SHOP:

SIDCUP (& Mail Order) **01-309 1111**
1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX
OPEN: *MON-SAT 9am - 5.30pm* ***LATE NIGHT:*** *FRIDAY 9am - 7pm*

LONDON **01-580 4000**
52 Tottenham Court Road, London, W1P OBA
OPEN: *MON-SAT 9.30am - 6.00pm* ***LATE NIGHT:*** *NONE*

LONDON **01-629 1234 ext 3914**
Selfridges (1st floor), Oxford Street, London, W1A 1AB
OPEN: *MON-SAT 9am - 6 00pm* ***LATE NIGHT:*** *THURSDAY 9am - 8pm*

To: Silica Shop Ltd, Dep NCE, 1-4 The Mews, Hatherley Road, Sidcup, Kent DA14 4DX

PLEASE SEND ME FREE LITERATURE ON THE AMIGA

Mr/Mrs/Ms: Initials: Surname:

Address:

Postcode:

Do you already own a computer
If so, which one do you own?

clik

WE ACCEPT
EXPRESS
VOUCHERS

AMIGA SPECIALISTS

Unit 1, Willowsea Farm, Spout Lane North, Stanwell Moor, Staines, Middx. TW19 6BW
Telephone: (0753)682988

SOFTWARE LIST

TITLE	S.S.P.	OUR PRICE
20.000 Leagues Under the Sea	19.99	13.50
4 x 4 Off Road Racing	24.99	19.50
Action Service	19.99	13.50
Advanced Ski Simulator	19.99	13.50
Adventure Con. Set	29.99	20.50
Alien Syndrome	24.99	16.50
Alternate Reality	19.99	13.50
Annals of Rome	24.99	16.50
Archon Collection	24.99	17.50
Arkanoid II	24.99	16.50
Armageddon Man	19.99	14.50
Army Moves	24.99	16.50
Around The World in 80 Days	19.99	13.50
Artic Fox	24.99	17.50
Atax	14.99	10.25
Autoduel	24.99	16.50
Baal	19.99	13.50
Balance of Power	29.99	19.50
Barbarian	24.99	16.50
Bards Tale I.	24.99	17.50
Bards Tale II	24.99	17.50
Basket Ball	24.99	19.50
Batman	24.99	16.50
Battle Chess	24.99	17.50
Bermuda Project	24.99	16.50
Better Dead Than Alien	19.99	13.50
Beyond The Ice Palace	24.99	16.50
Billiards (French Style)	19.99	13.50
Bomb Jack	24.99	16.50
Bombuzal	24.99	16.50
Bubble Ghost	19.99	13.50
California Games	19.99	16.00
Capone	29.99	19.50
Captain Blood	24.99	16.50
Captain Fizz & The Blaster-Trons	19.99	13.50
Carrier Command	24.99	16.50
Chessmaster 2000	24.99	17.50
ChronoQuest	29.99	19.50
Chukie Egg	19.99	13.50
Circus Games	24.99	16.50
Computer Hits II (Featuring Joe Blade. Golden Path. Black Shadow Tetris)	19.99	13.50
Corruption	24.99	16.50
Cosmic Bouncer	19.99	13.50
Crash Garret	24.99	16.50
Cybernoid	19.99	13.50
Daley Thompson	24.99	16.50
Deflector	19.99	13.50
Deja Vu	29.99	19.50
Destroyer	24.99	16.50
Double Dragon	19.99	13.50
Dragon's Lair	44.95	35.00
Driller	24.99	16.50
Dungeon Master (1 Meg only)	24.99	16.50
Earl Weaver Baseball	24.99	17.50
ECO	24.99	16.50
Eliminator	19.99	13.50
Elite	24.99	16.50
Emanuelle	19.99	13.50
Emerald Mines	19.99	13.50
Empire	24.99	17.50
Empire Strikes Back	19.99	13.50
Enlightenment	19.99	13.50
Espionage	19.99	13.50
Excalibur	19.99	13.50
Faery Tale Adventure	49.99	26.50
Falcon F-16	29.99	19.50
Fernandez Must Die	24.99	16.50
Ferrari Formula One (1 2 kickstart only)	24.99	17.50
Final Assault	19.99	16.00
Firezone	24.99	16.50
Fish	24.99	16.50
Flight Sim. II	39.99	26.50
Football Director II	19.99	13.50
Football Manager II	19.99	13.50
Forthand Inches	19.99	16.00
Fusion	24.99	17.50
Galactic Conqueror	24.99	16.50
Galdregon's Domain	19.99	13.50
Ganymede	9.99	7.00
Garfield	24.99	16.50
Gauntlet II	24.99	19.50
Gettysberg	Phone for availability	
Giganoid	14.99	10.25
Growth	14.99	10.25
Hellbent	19.99	14.50
Heltaskelter	14.99	10.25
Heroes of the Lance (1 2 kickstart only)	24.99	19.50
Highway Hawks	19.99	13.50
Hostages	24.99	16.50
Hotshot	24.99	16.50
IK+	24.99	16.50
Ikari Warriors	24.99	16.50
Impossible Mission II	19.99	16.00
Incredible Shrinking Sphere	24.99	16.50
Ingrids Back	19.99	13.50
International Soccer	19.99	13.50
Interceptor	24.99	17.50
Jet	39.99	26.50
Joan of Arc	24.99	16.50
Joe Blade II (inc Joe Blade I)	19.99	13.50
Kampfgruppe	Phone.for availabity	
Kennedy Approach	24.99	16.50
King of Chicago	29.99	19.50
Lancelot	19.99	13.50
Leatherneck	19.99	13.50
Legend of the Sword	24.99	16.50
Leisure Suit Larry	24.99	16.50
Major Motion	19.99	13.50
Marble Madness	19.99	14.50
Mean 18	24.99	17.50
Mega Pack (incl. Seconds Out. Mousetrap. Suicide Mission. Plutos. Winter Olympiad. Frost Byte)	24.99	16.50
Menace	19.99	13.50
Mouse Mouse	19.99	13.50
Mini Golf	19.99	13.50
Mortville Manor	Phone for availabilty	
Motor Massacre	19.99	13.50
Nebulas	19.99	13.50
NetherWorld	19.99	13.50
Nigell Mansell Grand Prix	24.99	17.50
No Excuses	19.99	13.50
Obliterator	24.99	16.50
Off Shore Warrior	24.99	16.50
Operation Wolf	24.99	16.50
Out Run	19.99	14.50
Pac Mania	19.99	13.50
Pandora	19.99	13.50
Phantom Fighter	19.99	13.50
Pioneer Plague	24.99	16.50
Platoon	24.99	16.50
Ports of Call	39.99	25.50
Powerplay	19.99	13.50
President is Missing	24.99	16.50
Purple Saturn Day	24.99	16.50
Quadralien	24.99	16.50
Quantox	14.99	10.25
Questron II	24.99	19.50
R.A.C. Lombard Rally	24.99	16.50
Reach for the Stars	24.99	17.50
Red October	24.99	16.50
Return of the Jedi	19.99	13.50
Return to Atlantis	24.99	17.50
Return to Genesis	19.99	13.50
Revenge II	9.99	7.00
Robeary	19.99	13.50
Rock Challenge	24.99	16.50
Rocket Ranger	29.99	19.50
Roger Rabbit	24.99	16.50
Rolling Thunder	24.99	19.50
Romantic Encounters	24.99	16.50
S.D.I	29.99	19.50
Sargon III	19.99	13.50
Scary Mutant Space Aliens from Mars!	24.99	16.50
Scenery Disc 7	19.99	13.50
Scenery Disc 11	19.99	13.50
Scenery Disc Europe	19.99	13.50
Scenery Disc Japan	19.99	13.50
Sentinel	19.99	13.50
ShadowGate	24.99	16.50
Sidearms	19.99	16.00
SideWinder	9.99	7.00
Skychase	19.99	13.50
SkyFox II	24.99	17.50
Sorcery Plus	19.99	13.50
Space Ball	24.99	19.50
Space Quest II	24.99	16.50
Space Racer	19.99	13.50
SpeedBall	24.99	16.50
Spidertronic	19.99	13.50
Star Glider 2	24.99	16.50
Star Wars	19.99	13.50
StarFleet 1	24.99	17.50
Street Gang	14.99	10.25
Street Fighter	24.99	19.50
Strip Poker II	14.99	10.25
Strip Poker Data Disc I	9.99	7.00
Strike Force Harrier	24.99	16.50
Summer Olympiad	19.99	13.50
Super Hang On	24.99	16.50
Super Six (Featuring Grid Start, Thai Boxing, Karting Grand Prix. XR 35, Las Vegas, Flight Path 737)	24.99	16.50
Superman	24.99	19.50
Sword of Sodan	29.99	19.50
TechnoCop	19.99	16.00
Teenage Queen	19.99	13.50
Terrapods	24.99	16.50
Test Drive	24.99	17.50
Tetraquest	19.99	13.50
Thexter	24.99	16.50
Three Stooges	29.99	19.50
Thunder Blade	24.99	19.50
Time & Magik	19.99	13.50
Time Bandits	19.99	13.50
Track Suit Manager	19.99	13.50
Tracker	24.99	16.50
Triad	29.99	19.50
Trivial Pursuit (New Beginning)	19.99	13.50
Turbo Cup	19.99	13.50
Turbo Trax	19.99	13.50
T.V. Sports Football	29.99	19.50
U.M.S	24.99	16.50
Ultima III	24.99	16.50
Ulitma IV	24.99	16.50
Uninvited	29.99	19.50
Vectorball	24.99	16.50
Victory Road	19.99	13.50
Virus	19.99	13.50
Wanted	19.99	13.50
Warlocks Quest	19.99	13.50
Way of the Little Dragon	14.99	10.25
Whirligig	19.99	13.50
Wizard Warz	24.99	16.50
Wizzball	24.99	16.50
World Tour Golf	24.99	17.50
Zany Golf	24.99	17.50
Zero Gravity	19.99	13.50
Zynaps	19.99	13.50

New Releases Now In Stock

Operation Neptune	24.99	16.50
Run the Gauntlet	24.99	16.50
Amiga Gold Hits (Feat. Jinks, Rolling Thunder, Bionic Commandos, Leaderboard)	24.99	19.50
Ballistix	19.99	13.50
Question of Sport	24.99	16.50
Custodian	19.99	13.50
Goldrunner II	19.99	13.50
Kenny Dalglish	19.99	13.50
Tiger Road	19.99	16.00
Goldrunner II Data Disc One	5.99	4.50
Goldrunner II Data Disc Two	5.99	4.50
D.N.A. Warrior	19.99	13.50
Realm of the Trolls	24.99	19.50
Denaris	19.99	16.00
The Games, Winter Edition	19.99	16.00
Prison	19.99	13.50
Willow	24.99	16.50
Afterburner	24.99	16.50
Kenny Dalglish Soccer Manager	19.99	13.50
Police Quest	24.99	16.50
Jug	19.99	13.50
Blasteroids	24.99	16.50
War in Middle Earth	19.99	13.50
Zak McKraken	24.99	16.50
Slipstream	19.99	13.50
Crazy Cars II	24.99	16.50
Steve Davis World Snooker	19..99	13.50
Last Duel	14.99	13.00
Pacland	19.99	13.50
R-Type	24.99	16.50
Titan	24.99	16.50
Krystal	29.99	19.50
Football Manager II Expansion Disc	12.99	10.25

SPECIAL OFFERS

Alien Strike	24.99	10.00
Black Jack Academy	24.99	10.00
Black Shadow	24.99	10.00
Borrowed Time	24.99	12.00
Chubby Gristle	19.99	11.50
Craps Academy	24.99	10.00
Cougan's Run	14.99	7.50
Diablo	19.99	10.00
Division I	19.99	11.50
Ebonstar	24.99	13.50
Elf	14.99	8.50
Eye	14.95	8.50
Final Trip	9.99	5.00
Frostbyte	14.95	8.50
Galactic Invasion	24.99	11.50
Insanity Fight	19.99	10.00
Iridion	19.99	11.50
Jump Jet	14.95	7.50
King's Quest Pack (Incl. KQ I-III)	24.99	16.50
Mach 3	19.99	10.00
MindFighter	24.99	12.50
MindShadow	24.99	12.00
Moebius	24.99	10.00
Ogre	24.99	10.00
Protector	9.99	5.50
RoadWars	19.99	10.00
Sacrophaser	14.99	8.50
Slaygon	19.99	15.50
Space Port	9.99	5.50
Space Station	9.99	5.50
Strange New World	19.99	7.50
Strip Poker	9.99	6.00
Street Fighter	24.99	14.50
Street Gang	14.99	9.50
Tetris	19.99	11.50
Tracers	24.99	12.50
Vampire Empire	19.99	11.50
Wall	14.99	7.50
Warzone	9.99	5.50

Please note that Special Offers are available in very limited quantities. Please phone to check availability before ordering these items.

Business Software

AC/Basic	195.99	132.50
A.M.A.S.	99.99	79.50
Adrum	39.99	32.50
Animator/Images	103.50	81.50
Aquisition 1.3	249.99	150.00
Art Parts 1	9.99	7.50
Art Parts 2	9.99	7.50
Ashas Fonts	59.99	45.50
Audio Master II	69.99	50.50
Award Maker +	39.99	29.50
Aztec C Professional	129.99	111.50
Aztec C Developer	179.99	150.00
BBC Emulator	49.99	39.50
B.B.S.P.C. Coms Pack	119.99	96.50
Butcher II	29.99	21.50
C. Library	79.99	60.50
Calligrapher 1.05	89.99	72.50
C.L.I. Mate	39.99	29.50
Comic Setter	49.99	39.50
Comic Setter Clip Art: Funny Animals, Superheroes, Science Fiction Gold Disk	24.99	18.50
Data Retrieve	57.99	42.50
Day by Day	29.99	21.50
Deluxe Music Con. Set	69.99	50.50
Deluxe Paint II	69.99	50.50
Deluxe Photolab	69.99	50.50
Deluxe Print	24.99	18.50
Deluxe Print II	49.99	39.50
Deluxe Productions	139.99	122.00
Deluxe Video	69.99	50.50
Des Cartes	29.99	21.50
DevPak Assembler Version 2	59.99	45.50
Digicalc	39.99	29.50
DigiPaint	39.99	29.50
Digiview Gold	149.99	125.00
Digidroid	59.99	50.50
Digiview Stand	Phone for availability	
Director	59.99	45.50
Director Toolkit	29.99	21.50
DOS 2 DOS	39.99	29.50
Draw 2000	224.25	185.00
E Type	39.99	29.50
Excellence	228.99	182.50
Express Paint	69.99	50.50
Facc II	29.99	21.50
Fantavision	39.99	29.50
Forms in Flight 2	69.99	50.50
Galileo 2	59.99	45.50
G.F.A. Basic	64.99	48.50
Godspell 2	29.99	21.50
Gomf 3.0	29.99	21.50
Gomf Button	59.99	45.50
Grabbitt	29.99	21.50
Highsoft Basic	49.99	34.50
Hot and Cool Jazz	9.99	7.00
I.F.F. Library	79.99	60.50
Impact	63.99	44.50
Instant Music	29.99	21.50
Interchange	49.99	39.50
Introcad	59.99	42.50
K Spread 2	79.99	60.50
K Seka Assembler	49.99	32.50
Kara Fonts	59.99	45.50
Kind Words 2	49.99	35.50
Lattice C Version 5.0	249.00	185.00
Lights, Camera, Action	57.99	39.50
Lions Fonts	59.99	45.50
M.C.C. Pascal Version 2	89.99	69.50
Macro Assembler	69.99	50.50
Mailshot Plus	49.99	39.50
Maxiplan A500	99.99	79.50
Maxiplan Plus	149.99	109.50
Microbase	19.99	13.50
Microfiche Filer	79.99	62.50
Microtext	19.99	13.50
Modula II	139.99	109.50
Modeller 3D	69.99	50.50
Movie Setter	69.99	50.50
Music Studio	34.99	24.50
Newsletter Fonts	29.99	21.50
On Line	110.46	107.00
Organise II	69.99	50.50
Photon Paint Expansion	19.99	16.50
Photon Paint (Special Offer)	69.99	39.50
Pixmate	49.99	39.50
Power Windows 2.5	69.99	50.50
Prism	59.99	45.50
Pro Board	139.99	109.50
Project D	39.99	29.50
Pro Net	139.99	109.50
Pro Midi Plus	39.99	29.50
Pro Sound Designer (Software only)	39.99	29.50
Pro Sound Designer (S/W & H/W)	79.99	60.50
Protext	99.99	79.50
Pro Video CGI	159.99	134.50
Pro Video CGI Fonts	69.99	50.50
Pro Video Plus	249.99	185.00
Pro Video Plus Fonts	99.99	72.50
Professional Draw	139.99	122.00
Professional Page	249.99	185.00
Publishers Choice	99.99	72.50
Publisher Plus	99.99	79.50
Quarterback	49.99	39.50
Rock and Roll	9.99	7.50
Ruby View /Term	99.99	79.50
Sculpt 3D	85.00	69.50
Sculpt 3D Animate	129.99	111.50
Sculpt 4D	423.99	355.00
Seasons and Holidays	9.99	7.50
Shell	49.99	34.50
Simp Library	79.99	60.50
Sonix	57.99	39.50
Studio Font	29.99	21.50
Studio Magis	69.99	50.50
Superback	52.50	39.50
Superbase	89.99	72.50
Superbase Professional	249.99	185.00
Terrain (for Turbo Silver)	19.99	16.50
TV Show	69.99	50.50
TV Text	69.99	50.50
Tool Kit	39.99	29.50
Turbo Silver	139.99	115.00
Video Titler 1.1	110.00	85.50
Virus V.I.P	39.99	29.99
Videoscape 3D	143.75	117.00
Wordperfect 4.1	228.99	185.00
XCad	460.00	325.00
XCopy	29.99	21.50

Educational Software

Con. Sound Tratton (Age 4+)	31.95	24.50
Matchit (Age 2+)	31.95	24.50
Mathamation (Age 13+)	69.99	50.50
Mathamagician (Age 6+)	39.99	29.50
Robot Readers (Childrens Stories) (Each)	24.99	18.50
Fun School 2 (under 6)	19.99	13.50
Fun School 2 (age 6-8)	19.99	13.50
Fun School 2 (over 8)	19.99	13.50

Hardware List

A500 Amiga (inc Built in Disk Drive and 1.3 Kickstart. Mouse. Power Supply. Workbench "The Very First" and Modulator)	399.00	360.00
A500 Amiga with 1084/S Colour Monitor	649.99	620.00
1084/S Colour Monitor	299.99	260.00
A500 Amiga, 1084/S Colour Monitor and 2nd Disk Drive	749.99	665.00
1084/S Colour Monitor and Philips TV Tuner	399.99	360.00
Philips TV Tuner	99.99	95.50
Cumana CAX 354 Standard Disk Drive	99.99	95.50
Cumana CAX 354 with Power Supply	150.00	135.00
Genlock 8802	299.00	270.00
Triangle Broadcast Quality Genlock	915.00	850.00
A501 1/2 Meg RAM Upgrade for A500	175.00	150.00
B2000 Amiga	1269.00	999.00
B2000 Amiga and 1084/S Colour Monitor	1494.00	1259.00
A2058 (8Mb RAM Board Populated with 2Mb)	746.35	695.00
A2088 XT Bridge Board	607.20	573.00
A5060/A2092 20Mb MSDOS Hard Disk	402.50	395.00
A2090/A2092 20Mb Amiga DOS Hard Disk	460.00	445.00
A2010 Internal 3 1/2 Disk Drive	196.65	172.00
Cumana CSA100S External 5 1/4 Disk Drive	120.00	115.00
Star LC10 Black and White Printer	297.85	255.00
NPS 1230 Black and White Printer	249.99	235.00
Star LC10	343.85	315.00
Star LC24/10	458.85	425.00
Star NR15	688.85	660.00
Star NB24/10	759.85	735.00
Star NB15	1056.85	985.00
Star Lazer 8	2287.00	2195.00
14" Cotron Hi Res Colour Monitor	747.50	695.00
20" Cotron Hi Res Colour Monitor	2070.00	1879.00
Cherry Pad A3 Digitising Tablet	632.50	595.00
Video Driver Card (Must be sold with Cotron)	396.75	360.00

PERIPHERALS

Disk Box (Holds 50 Disks)	22.50	10.50
Disk Box (Holds 80 Disks)	32.99	13.50
Clik Mouse Mat		5.00
Pro5000 Joystick	23.99	14.50
RAM Delta Joystick	15.99	9.50
Speed King Joystick	19.99	12.50
Citizen 120D Printer Ribbon	9.99	3.50
10 Blank Disks with Box	27.75	13.50
100 Blank Disks	Special Price	£100.00
Actionware Light Gun	49.99	35.00
Four Player Adaptor (For Int. Soccer, Leatherneck etc.)	5.50	4.50
Mouse Bracket	9.99	5.00
Replacement Commodore Mouse	35.00	24.50

A TO Z

Plucked from the cornucopia of computing products, terms, companies and people comes the Express A-Z Guide. *Over the next few weeks it will build into a computer encyclopaedia, bursting at the seams with definitions and information.*

But be warned. This is no dictionary-dry effort. The Express A-Z *has not been set up to produce tediously literal entries. Instead, we're evaluating the products and companies, and placing them in an overall computing context.*

Of course you have to draw the line somewhere with any such listing – even if it does run from now until the autumn. Inevitably, there have been exclusions. But we've focused on the most influential companies and individuals, the leading and/or biggest-selling products and the most frequently used computing terms.

From the vast array of games, we've selected those that have a place in the history of computing: the first of a genre, the overall classics, the year's biggest-seller, the genuinely innovative – that kind of thing.

Turn the page for the first instalment of the Express A-Z. *Compiled by Jerry Glenwright with help from sundry Future Publishing colleagues, you'll find it informative, entertaining and occasionally even exasperating...*

HELP US HELP YOU

If you think we've missed out any vital terms or firms or names or games or hardware or software, then write and tell us. You could win £10.
Send in three entries with 20-30 word definitions which you think we should've included. The best trio will be printed each week in Express, *with the tenner going to the writer. Send your entries to* Express A-Z *at the usual address. Get reading, get thinking, get writing – and who knows? You might get lucky...*

A

ACORN (Co.): Founded at the turn of the decade by Chris Curry and Hermann Hauser, the company succeeded in the market place due to its marriage to the BBC, who pushed – nay, still pushes – the 8-bit micro developed by Acorn for all its worth.

Based on the Atom – the first machine designed by the company – the BBC computer was shipped with 32k RAM, a 6502 processor and an excellent (for its time) version of BASIC.

Acorn consolidated its success with the launch of the Master, a BBC computer in drag – heavily padded – by selling it into an already established educational market.

Acorn shipped a large quantity of units, somehow contrived not to be profitable and was bailed out by Olivetti in 1985.

In more recent times the company has decided to pursue the 'leading-edge' by designing and releasing the Archimedes, a machine employing the RISC (Reduced Instruction Set Chip) as its CPU and offering speed and copious processing power.

Unfortunately, the machine remains obscure due to its monstrous price.

ACORN ARCHIMEDES (C): Acorn's attempt at high technology. Realeased in 1987, the Archie employed a RISC – Reduced Instruction Set Chip – offering raw processing power unthinkable just a few years ago, coupled with lots of RAM, a monitor, mouse and windowing environment.

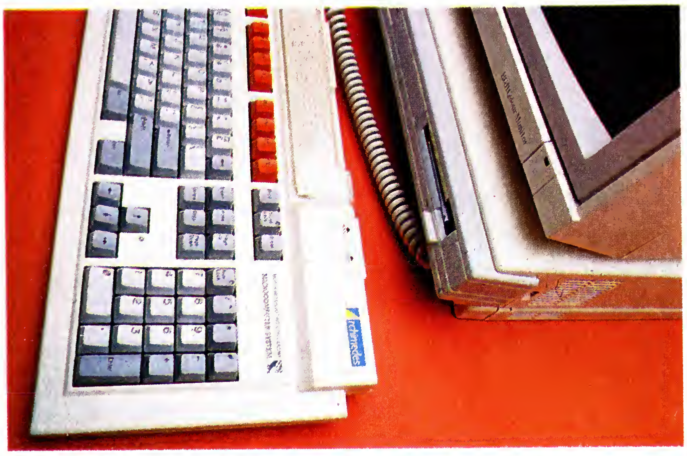
Although the machine has a reasonable following in the educational sector, the Archie remains obscure – due to its high price – in the home and small business market

ACORN ELECTRON (C): The Electron was designed to be an affordable BBC-like computer for the home market, but suffered from incompatibility problems with the BBC machine, a lack of software and a high price.

The machine is all but dead outside the occasional Alternative Micro Show.

ACOUSTIC COUPLER (T): An early type of modem. The acoustic coupler has a rubber cup placed at either end of a 'box' of controlling electronics. The ear and mouth piece of a telephone handset is placed into the cups and a high pitched tone – representing data – is passed between the modem and telephone. See also ***modem***.

ACTIVISON (Co): Major league US leisure software publisher which also owns adventure kings Infocom and publishes the likes of System 3. Made inconceivably high mountains of cash from the Atari VCS days, and then plummetted just as inconceivably. Publisher of Ghostbusters, the biggest-selling game in the UK, which not only topped the charts in 1984 but had the effrontery to bounce back as a budget game in '88. Activision implausibly metamorphosed into Mediagenic.


• The Archimedes: 32-bit technology from Acorn

ADA (L): Third generation programming language originally devised for the American department of defence, and named after Ada Lovelace the daughter of Byron.

Ada is a structured language similar to Pascal which is used in embedded systems. Here is a fragment of Ada.

```
with SQRT, SIMPLE_IO;
procedure PRINT_ROOT is
use SIMPLE_IO;
Z: FLOAT;
begin
get(Z)
put (SQRT(Z));
end PRINT_ROOT;
```

Lovelace is often touted as the first woman programmer due to her association with Charles Babbage, and her definition of programming logic.

ADDRESSING (T): The process by which a CPU locates and accesses data from RAM or ROM memory.

ADVENTURE (GG): Generic term for computer games in which the player adopts the role of adventurer and explores artificial worlds usually in search of women – the genre is almost entirely sexist – and treasure. There are opponents in the form of Goblins, Trolls, Dragons etc., who usually have to be destroyed in order to succeed.

The adventure game used to be exclusively text-based, but increasingly, pictures and interactive graphics are used. See also ***arcade adventures***.

ALGOL (L): An acronym for ALGOrhythmic Language, a third generation programming language which is notable for its evolution into Pascal and Modula-2.

AMSTRAD (Co.): The name is an acronym for Alan Michael Sugar TRADing. The company was formed in 1968 by the aforementioned Mr. Sugar and exhausted the profit gleaning capabilities of a number of products – namely car aerials, hi-fi and televisions – before settling on computers as a way to squeeze even more mazuma from Jo(sephine) Public.

Amstrad's first attempt was with the CPC464, a machine with a built-in cassette recorder for easy loading and saving, and bundled with a mono or colour monitor. At the time, this was considered innovatory and the company's products have followed in a similar vein ever since (*Express* uses irony – alllrrrright!).

Never overly worried with procuding state-of-the-art machines, the company appears to be on a down-swing profit wise. But everything is relative: Amstrad is nonetheless one of the UK's most profitable companies.

• The Amstrad HQ in Brentwood

AMSTRAD CPC464/664/6128 (C): The range of machines launched by Amstrad as its entry into the computer market.

The CPC464 was the first, released on the 11th April 1984 in colour and mono versions and with a built-in cassette recorder as standard. It was quickly followed by the CPC664 – a 64k disk based machine – released in May 1985. Then came the CPC6128, which was almost the same machine but with 128k memory.

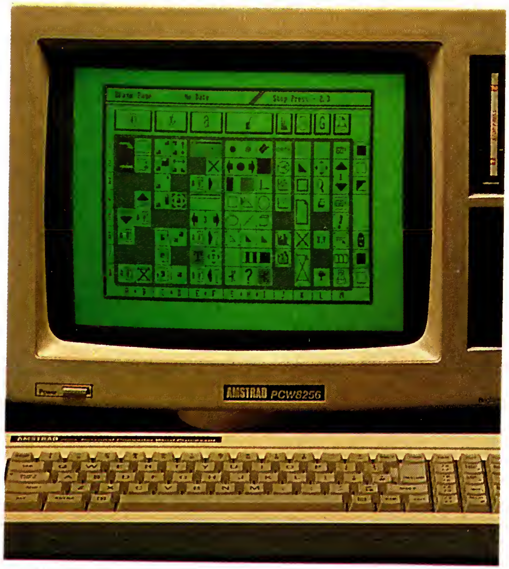
The CPC6128 effectively destroyed the market for the CPC664 and the machine was peremptorily dropped by Amstrad: to the considerable annoyance of 664 buyers.

The CPC range has sold in great numbers – 2,000,000 in late '88 – and has continued to be popular both here and in Europe.

AMSTRAD PCW 8256/8512/9512 (C): Amstrad recognised a possible source of exploitation in the market gap between the home and business computers, and produced the PCW range of machines. Determinedly non high tech, Amstrad adopted the archaic CP/M operating system and the Z80 CPU, them with a converted television and non-standard disk drive, bunged the unwholesome conglomeration into a flimsy plastic case and off-loaded this spawn of Beelzebub onto a computer-unsophisticated public who wanted a computer but was unsure of what to buy. The range duly sold millions.

The machine is shipped in three guises: the 8256 (a single drive, 256k machine); The 8512 (same machine but with 512k of memory and two

Key: C - computer Co - company DB - database DTP - desktop publishing G - game GG - game genre Gr - graphic



• The Amstrad PCW: Lo-tech, but hugely successful

drives); the 9512 (an attempt at giving the PCW some credibility, with a paper white monitor, 512k of memory and two drives).

The machine continues to sell in enormous quantities, much to the chagrin of anyone with a modicum of computer architecture knowledge. But to the vast majority of PCW owners, tech spec talk is an irrelevance.

AMSTRAD PC 1512/1640 (C): With both the CPC and PCW ranges selling in large quantities, Al-baby (as he is popularly known) decided that it would be a good idea to get into the low-end business market by offering an IBM-PC compatible machine. The PC1512 was born. It possesses 512k memory, MDA/CGA graphics, single or twin floppies and mono or CGA colour monitor.

Despite being plastic – in both the physical and sensory sense – the machine sold in enormous amounts and Al-baby had another winner.

The range was extended with more memory, hard drives, and better displays, and for the first time the ordinary person in the street could afford to compute on an industry (almost) standard.

ANCO (Co.): Software house associated with the peelers – a computer game genre involving games of chance (usually poker) and unfortunate women shedding their clothing as a reward (!) for winning.

ANALOGUE (T): The representation of some abstract figure using a continuous variable e.g. the sweep hands of a clock or watch provide a variable, but continuous, representation of an abstract figure (time). See also ***digital***.

ANALYST (T): Person responsible for the definition, development and installation of computer programs and systems. Analysts use various methods to ascertain the needs of prospective computer users, chiefly time and motion studies, questionnaires and 'dry-running' paper systems. But whatever the method, they tend to be expensive.

APL (L): An acronym for A Programming Language. A third generation language used to solve arithmetic problems. Used like an advanced calculator.

APPLE (Co.): Founded in 1975 by Steve Jobs with fellow Californian Steve Wozniak. The company responsible for the Apple 8-bit range, the Lisa and the Macintosh and a very large slice of hype.

From the start, Jobs was the guiding light and guru of the company, using large-scale expensive advertising in all areas of the media to get his message across that the future of computing lay in small systems (as opposed to the sprawling mass of IBM).

It was his idea to implement the user interface of the Mac – thereby opening a veritable Pandora's box of windowing environments.

ARC (T): Widely used public domain computer program, which concatenates text and program files by a significant amount, thereby reducing storage needs. See also ***public domain***.

ARCADES (GG): The source of the coin-op conversion. Seedy buildings containing a change-giving booth in scratched plexi-glass, a guy aged about 60, unshaven and wearing a vest, counting a *very large wad of grubby notes, and a dishevelled, blonde-haired woman talking to herself and making desultory sweeping motions with a hairless brush. A large group of hostile kids gather around the only machine worth playing on. Ya still wanna go, right?

The word arcade is also used as a generic term to describe games usinginteractive colourful graphics and lots of sound, wherein the player chases around, killing, collecting and amassing points.

ARCADE ADVENTURES (GG): Generic term describing games incorporating elements of both shoot-'em-ups and adventures, usually involving the adventurer rescuing damsels (the genre is almost always sexist), collecting cash and exterminating the opposition – the latterplaying a large part in the game.

ARNOR (Co.): Software house responsible for publishing *Protext*, a word processing package whose virtues are much extolled in the computer media and which is available across a wide range of popular machines.

• Apple Macintosh: Desktop publishers' favourite

ARTIFICIAL INTELLIGENCE (T): Also known in abbreviated form as AI. This expression is used to describe the process of studying and advancing the 'intelligence' quotient of computers, by getting them to perform simulated thought processes, and to react and adapt to outside stimulus.

ASCII (T): An acronym for American Standard Code for Information Interchange. A 7-bit code which facilitates the transfer of data between computers and peripherals.

ASHTON-TATE (Co): Founded in the mid '70s by Wayne Ratcliffe – a former employee of the jet propulsion laboratory based in Pasadena – he developed a database product originally called *Vulcan* (after the home planet of the Star trek character Spock).

After meeting George Tate, the pair decided to form the company known as Ashton-Tate and renamed *Vulcan Dbase II*.

The 'ashton'of Ashton-Tate doesn't exist, but was used as a way of taking the company name up-market.

ASSEMBLER (L): A program that converts written instructions (assembly language) into a form directly understandable by the CPU of a computer. See also ***assembly language***.

ASSEMBLY LANGUAGE (L): Second generation language used as a replacement for machine code. Each assembly language instruction is converted (assembled) by a program known as an assembler, into a code directly understandable by a computer. See also ***assembler***.

ATARI (Co.): Founded in 1974 by Nolan Bushnell the creator of the game Pong, and bought up by Warner Brothers. Atari made a lot of money in the late '70s and early '80s with consoles and 8-bit computers, the 400 and 800.

By the end of 1983 the Brothers Warner had a flop on its hands – Atari was losing megabucks – and so it (Warner Bros.) made a little present of the purchase price of Atari to Jack Tramiel, erstwhile owner of arch-rival Commodore.

Under the guiding light of the Godfather – as big Jack is popularly known – the machine range was revitalised with machines such as the XL, XE and ST.

The fortunes of the company went into a massive upswing, allowing Atari to become one of the golden 500 top earning companies in the world. It has slipped back of late, due in part to the renaissance of Commodore.

Design Limited

Core Design are a young dynamic Software Development company presently producing Software for major UK Software Publishers.

Due to popular demand we are now looking for additional programmers and graphic artists to join our existing team.

We are looking for Programmers with assembly language experience on the following computers:

IBM PC ATARI ST AMIGA COMMODORE 64 SPECTRUM AMSTRAD

In addition we also require Graphic Artists with experience of any of the above computers. If you fall into any of the above categories and would like to work for one of the most innovative teams in the country, contact Core Design now - it could be the opportunity of a lifetime.

Apply to Kevin Norburn at:

CORE DESIGN LTD

Ground Floor, Saxon House
Heritage Gate
Derby DE1 1NL
or Telephone: (0332) 290668

Desktop produced Biological Documents - Interesting Projects Involving Computers - One week Field Course to Biological Firms using Computers - Industrial placement during Summer Vac - Unit Based course - Computer Interfacing Practicals - Electronic note books

Computing is fun
But then so is Biology
All sciences now use computers
Many scientists have computing as their hobby
Employment is good for those with technical skills.
If you are hoping for a career in Biology
but also interested in Computing,
why not mix the two

BIOLOGY WITH COMPUTING

LUTON COLLEGE OF HE

run a special

2 yr Full Time Course

leading to a BTEC

Higher National Diploma

For those with at least one appropriate "A" level (or equivalent) and some other supporting studies or those with relevant alternative experience.

Why not write to us for more details
The Admisssions Tutor for HND ABC
Faculty of Applied Sciences
Luton College of HE Park Square, Luton. LU1 3JU

P. D. Systems

Full time assembly language programmers (preferably 8086) are urgently required. IBM PC, MSDOS, or PDS knowledge will be useful.

We are offering **TOP** wages, for experienced, or quick learning capable programmers.

PDS is now the industry standard development system. If you have used, or heard of the system, or feel you would like to work on serious application software, then call or write to us immediately.

P.D. Systems
2nd Floor, Abbey House,
Wandsworth Road, London, SW8 4TE
Telephone: 01-978 1844 Fax: 01-622 2719

ACTUAL SCREENSHOTS

A new software label setting new standards in Computer Gaming requires **CODERS** and **GRAPHIC ARTISTS** for the **AMIGA, ATARI ST** and **PC MACHINES**, capable of producing the **BEST** the Medium has to offer.

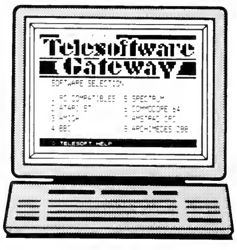
If you think you've got what it takes, contact
ADRIAN TURNER at
ACTUAL SCREENSHOTS
immediately on
(01) 533 2918
or send C.V.'s and DEMOS to:
UNIT 7D, KING'S YARD, CARPENTERS ROAD,
LONDON, E15 2HD

AT MICRONET WE'RE REALLY TALKING!

FREE MODEM
with annual subscription or
£11.45 HALF PRICE 1st quarter

With Micronet you can turn your computer into a communications terminal that will download free software, access up-to-the minute computing information, play exciting multi-user games, talk to other people (and computers) and a lot more.

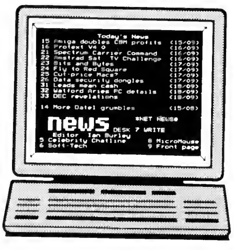
And if you join before June 30th 1989 (offer extended) you can get your first quarter's subscription at half price – just £11.45!


Telesoftware
Gateway
SOFTWARE SELECTION
1 PC COMPATIBLES
2 ATARI ST
3 AMIGA
4 BBC
5 SPECTRUM
6 COMMODORE 64
7 AMSTRAD CPC
8 ARCHIMEDES 288
0 TELESOFT HELP

FREE SOFTWARE

On Micronet you can browse through an extensive software library of free programs, select one and then download it.

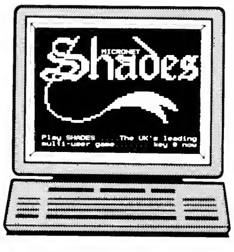
We now have software for all popular machines, from the Spectrum to PC compatibles, including the Atari ST and the Amiga.


Today's News
15 Amiga doubles CBM profits (15/09)
16 Protext V4 0 (16/09)
21 Spectrum Carrier Command (16/09)
22 Amstrad Sat TV Challenge (16/09)
23 Bits and Bytes (17/09)
24 Fly to Red Square (17/09)
25 Cut-price Macs? (17/09)
26 Data security dongles (17/09)
31 Leads mean cash (18/09)
32 Watford Aries PC details (18/09)
33 DEC revelations (18/09)
14 More Datel grumbles (15/08)
news
NET NEWS
DESK 7 WRITE
Editor Ian Burley
5 Celebrity Chatline
6 Soft-Tech
8 MicroMouse
9 Front page

INFORMATION

Micronet is also a computer magazine. Our computer news area is updated every day, so there's no better way to stay up-to-date, and our software reviews and features for all popular micros mean Micronet members are always better informed.

Add to this Prestel's massive database and you'll have all the facts at your fingertips.


MICRONET
Shades
Play SHADES The UK's leading multi-user game key 8 now

ENTERTAINMENT

Micronet is not just informative, it's also a lot of fun! As a member you'll have access to a range of games, including the UK's most popular multi-user game, Shades, where the action is live and so are your opponents!

COMMUNICATE!
1 SENDING MESSAGES
2 LIVE CONVERSATION
3 MAKING FRIENDS
4 INTERLINK/TELECOM GOLD

COMMUNICATIONS

Join Micronet and use your computer to communicate with thousands of other users. From electronic mail, telex and fax to chatlines and teleconferencing, Micronet lets you do the talking.

Micronet
1 MICRO MAGAZINES
2 COMPUTER NEWS
3 FREE TELESOFTWARE
4 COMMUNICATIONS
5 ENTERTAINMENT
** GET ON-LINE WITH MICRONET **

LOW COST

Now, not only can you get your first quarter's membership for £11.45, but using Micronet starts at just 50p an hour – and that includes telephone charges! Wherever you are, Micronet is just a local phone call away.

If you need a modem, we'll even give you one free if you choose instead to take out a year's subscription in advance.

Just phone our Sales Desk on 01-837 7872 or clip the coupon today for more information and a free brochure.

Join Micronet, and get talking!

FREE DEMONSTRATION

If you have access to a modem (1200/75 baud) and viewdata communications software you can see a free demonstration of Micronet. Just Dial 021-618 1111 and use the ID 4444444444 and password 4444.

You can look up a local telephone number once on-line.

Return to: Micronet, Telemap Group Ltd, Durrant House,
8 Herbal Hill, London EC1R 5EJ.

Name: ____________________

Address: ____________________

____

Tel. No.: ____________________

Age: ____________________

Machine Type: ____________________

NCE/SP/20 4 89
MICRONET

Price includes 1st quarter residential subscription by direct debit only (normally £23) and does not include hardware or software. Minimum subscription period 1 year. Offer available in the UK only to new members. Free modem available to first time UK subscribers while stocks last. Free modem and half price subscription offers are separate and not available together.

More High Quality Software Tools from HiSoft...

'C' Language Interpreter

C is a highly popular language nowadays, but was not really designed to be easy to use or to learn. Most C compilers have a slow development cycle: edit, compile, edit, compile, link, edit, compile, etc. Thus, many people have been put off learning the C language.

Now, the HiSoft C interpreter is available, allowing you to develop and test C programs in a fast, easy-to-use manner.

Features

- Full screen GEM editor. A superb editor with: undo, macros, merge files, on-line help, disk utilities and more.
- Full C implementation. HiSoft C is a full Kernighan & Ritchie system with a library of over 470 functions.
- Standard libraries. Both Unix and ANSI libraries are supplied, together with a full interface to GEM and the ST's BIOS. Also included is a toolbox of easy-to-use GEM functions so that even GEM becomes painless.
- Extensive Debug facilities. You can trace a program, line by line and inspect variables, set breakpoints etc.
- You can link C source programs with assembly language or even compiled C code and create your own libraries.
- Compatible with most common C compilers .
- Runs on any ST with at least one floppy drive.

Manual

HiSoft C comes with a proferssional 250-page ring-bound manual which contains a full tutorial in the C language as well as a host of example programs and a full reference section.

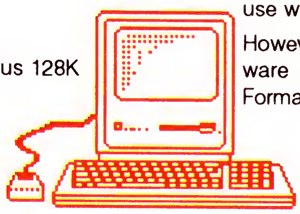
Price

HiSoft C / Atari ST £49.95

Spectre 128 Mac Emulator

Early Mac emulators for the Atari ST were only able to support obsolete 64K ROMs, making them incompatible with modern Mac software.

Spectre 128 runs legitimate Macintosh 128K system ROMs, bringing it right up-to-date with current software and providing a reliable base for future software.



- programs run 20% faster than on a Mac Plus.
- Because Spectre 128 utilises the latest Mac Plus 128K ROMs, it is compatible with the best modern software : Hypercard™, Adobe Illustrator™, PageMaker™, MacWrite 5.0™, MacPaint 2.0™, MultiFinder™, Quark Xpress™, Aldus Freehand™, Microsoft Word™ version 4ß, Microsoft Excell™, etc. No need for patch files.
- Spectre 128 runs the very latest System & Finder (6.0.2 at the time of writing) — without patching
- ST monitor provides 30% larger area than a Mac Plus
- Compatible with all ST hard disc drives
- HFS fully supported. 800K per double-sided floppy, and 400K format is supported for single-sided floppy drives.

Mac format discs

Macintosh floppy drives are not the same as ST drives; you can't just take a Mac floppy and use it in an ST. In normal use, system software, files and applications are transferred serially from Mac to ST and converted to a special format for use with Spectre 128.

However, available shortly is an amazing low-cost hardware device which allows true Macintosh discs to be Formatted, read or written in the ST drives.

Requires

- Atari ST (only 1MB or greater will be able to run latest systems and software)
- Macintosh System Software in compatible format
- Macintosh application software in compatible format

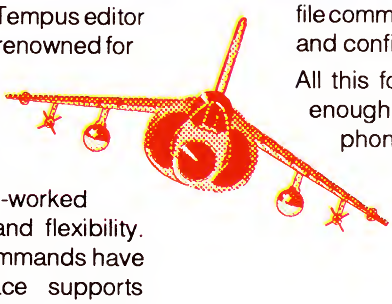
Price

Spectre128 (no ROMs) £129.00, (with ROMS) £199.00

Complete details on the above products are available upon request. Please call or write for further details.

Tempus 2

The long-awaited sequel to the popular Tempus editor is here at last! Version 1 of Tempus was renowned for its speed & versatility - now Tempus 2 takes these qualities even further offering you probably the most complete editor ever seen on the Atari ST.



Every aspect of the editor has been re-worked for extra speed and added power and flexibility. Many new block and line editing commands have been added, search & replace supports wildcards, there's undoable UNDO, a delete file command, full support for chaining other programs and configurable keyboard shortcuts for everything.

All this for only £39.95. Obviously we do not have enough space to tell you all here. Please write or phone for more details ... or to place an order!

HiSoft
High Quality Software

The Old School • Greenfield
Bedford • MK45 5DE
Fax (0525) 713716 • Tel (0525) 718181

High Quality Software High Quality Software High Quality Software High Quality Software High Quality Software High Quality Software High Quality Software

ST

Sub £200 hard drive

You're probably sick to death of hearing about hard drive systems for the ST... that's tough, 'cos here's more on the suoject. How would you react to the notion of a hard drive for under £200! Staggering, huh? The drive would only have 7.5Mbytes of storage and be about the size of an external 3.5" floppy drive. Before you rubbish the idea, consider how much an external 3.5" drive costs. Circa £100? Yes, and how much can you fit on 3.5" disk? Approximately 720K. Being able to store 10 times the information and having it at your fingertips would be heaven.

What if this little drive could be placed inside your ST's casing? Out of sight and out of mind. Yo! No need to take a boxful of disks when you travel. 7.5Mbytes is more than enough to store three or four applications plus enormous data files. Just imagine the drive inside Stacey. That's what I call portable power.

I know I'd have a use for such a drive, but would you? If you're interested – even slightly – pick up the phone, dial 0272 574569 and ask to speak to Gary Drake at Tempest. Alternatively write to **EOS House, 145 Staple Hill Rd, Fishponds, Bristol, BS16 5AG**. I've already told Gary why such a drive would be a good idea (because I want one!); now you tell him why Tempest ought to produce the thing. Do it!

Now news of more mass storage devices. There! I got away without saying hard drive. $^%*! Atari may not believe in an optical drive for the ST, but Third Coast certainly does. The as yet unpriced Sony WORM – write once read many – drive will be able to format, read and write 300Mbyte disks. Software drivers have been written for the system so it shouldn't be long before the optical drive becomes readily available.

Also new from Third Coast is a Bernouli drive for around £799. This uses removable 44Mbyte disks which costs £100 each. The Bernouli drive has a 40ms access time which is on a par with fast hard drives. More from Third Coast at **Unit 8, Bradley Hall Trading Estate, Standish, Wigan, WN6 0XQ** (0257 426464).

Right, that's it on hard drives. There will be no mention of them in next week's column whatsoever. Not even if they're being given away free. Honest.

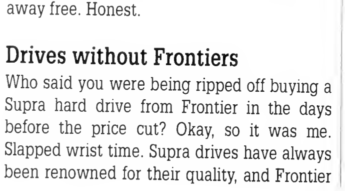
Drives without Frontiers

Who said you were being ripped off buying a Supra hard drive from Frontier in the days before the price cut? Okay, so it was me. Slapped wrist time. Supra drives have always been renowned for their quality, and Frontier has always provided unequalled dealer/distributor support. In the past this has meant Frontier drives tended to be more pricey than other manufacturers' drives. But then you pay for the security of having a quality product and – if something should go wrong – dealer backup.

Andrew Bennett, Frontier's managing director, explained the recent £100 price cut on the 30Mbyte drive: "there are several reasons: market forces, volume sales and better deals from Supra in the States. More people are buying hard drives which means higher production runs and consequently lower production cost per unit. Our prices are governed very much by what sort of deal Supra is prepared to offer us – recent negotiations with Supra have been favourable for us."

As Supra drive quality goes, Andrew offered, "our 30Mbyte drives use the RLL encoding system. Better head amplifiers are needed to read and write RLL data; these are present in our drives. I suspect the same can't be said of other drives. While other drives might seem to work fine at first, they could go down after several months. You're guaranteed reliability with our drives."

Contact Frontier at **PO Box 113, Harrogate, North Yorkshire, HG2 0BE** (0423 530577) if you're interested in the Supra range of drives for the ST.



Screen enlarger

If your guarantee hasn't expired or you fear for your life, don't attempt this. Recent Atari monitors have controls at the back to alter the position and size of the screen; not true with older monitors. There isn't usually any need to alter your monitor, but you may prefer working with a full-size screen. Here's how to carry out the operation.

First unplug the monitor from the mains. It's best if you attack the monitor cold – that is, it hasn't been switched on for a couple of hours. Monitors can hold extremely high static charge for a long time. It can be fatal!

Unscrew the back of the monitor and peer inside. You should see a thick black wire running alongside the tube. to the right you will see three cubes with slots for taking a screwdriver. On them, in very small print, you should see the words 'horizontal hold', 'horizontal size', and 'focus'. Twiddle the dials until you have a screen that you're satisfied with. Take care!

Snippets

●Kuma has revised *K-Scope* and *K-Spect*. *K-Scope/K-Spect* consist of hardware and software enabling the Atari ST to be used as an audio frequency oscilloscope or a spectrum analyser respectively. The major update is provision for saving data for later display and use. Both products cost £199 excluding VAT; *K-Spect* is available as a software add-on to *K-Scope* owners for £80. Kuma is at **12 Horseshoe Park, Pangbourne, Berks** (07357 4335).

●Gate Seven Computers of **6A Gwendwr Rd, London, W14 9BG** (01-602 5186) has released an enormous selection of fonts for use with the *Signum 2* document processor distributed by Signa. Fonts available include Arabic, Bengali, Farsi, Greek, Gujarati, Hebrew, Hindi, Ladakhi, Marathi, Nepali, Punjabi, Russian, Sanskrit, Tibetan and Urdu. £25 per font if you're interested.

Adrion McHerriot

BYTEBACK

WE ACCEPT EXPRESS VOUCHERS

KEENEST PRICES

FAST DELIVERY SERVICE

We're programmed to help, *so ring us now.*

ATARI ST PACKS

520 STFM EXPLORER PACK£359.00
INCLUDING: RANA RAMA Game + ORGANISER BUSINESS PACK ETC

520 STFM SUPER PACK ...£399.00
INCLUDING: 21 ARCADE GAMES, ORGANISER BUSINESS PACK ETC

1040 STFM BUSINESS PACK .£449.00
INCLUDING: VIP PROFESSIONAL +MICROSOFT WRITE, SUPERBASE PERSONAL OR 21 GAME PACK!

AMIGA PACKS

AMIGA A500 (1.3).................£369.00

AMIGA A500 GAMES PACK(1.3)...£399.00
PLUS: Choice of Software Packs
Phone/Write for details

A500 AIR MILES PACK (1.3)......£449.00
PLUS: 500 Air Miles, 3 games and Paint Package

* EXCLUSIVE * FREE WORKBENCH 1.3 WITH EVERY AMIGA PURCHASED ! !

ATARI ST - LEISURE		
Archipelagos	24.90	16.90
Balance of Power 1990	24.90	16.90
Ballistix	19.95	13.90
Barbarian II	19.95	13.90
Batman	19.95	13.90
Bio Challenge	19.99	13.90
Chuckie Egg	19.95	13.90
Chuckie Egg 2	19.95	13.90
Colossus Chess X	25.00	16.90
Combat Pilot	24.95	16.90
Cosmie Pirate	19.90	13.90
Crazy Cars II	24.95	16.90
Custodian	19.99	13.90
Deep (The)	19.95	16.90
Dragon Ninja	24.95	16.90
Dungeon Master	19.95	16.90
Dungeon Master Editor	9.99	8.90
Elite	24.95	16.90
Emmanuelle	19.95	13.90
Faleon	19.95	16.90
Fed. of Free Traders	29.95	19.90
Galdregon's Domain	19.95	13.90
Garfield	19.95	13.90
Ine. Shrinking Sphere	19.95	13.90
Kenny Dalglish	19.95	13.90
Leisure Suit Larry	19.95	13.90
Leisure Suit Larry 2	29.95	19.90
Mayday Squad	19.95	13.90
Pae-Land	19.95	13.90
Poliee Quest II	24.95	16.90
Populous	24.95	17.90
Preeious Metal	19.99	13.90
Prison	19.95	13.90
Raffles	19.95	13.90
Steve Davis Snooker	19.99	13.90
Teenage Queen	19.95	13.90
Voyager	19.99	13.90
Wanted	19.95	13.90
Zak McKraeken	24.99	19.90
Zany Golf	24.95	16.90

AMIGA - LEISURE		
AB Zoo	14.95	11.50
After Burner	24.99	16.90
Baal	19.95	13.90
Balance of Power 1990	24.99	16.90
Batman	24.95	16.90
Captain Fizz	14.95	11.50
Chuckie Egg 2	19.95	13.90
Cosmic Pirate	19.99	13.90
Dark Fusion	19.99	16.90
Denaris	19.95	16.90
Dragon's Lair	49.95	29.90
Dragon Ninja	24.95	16.90
Dungeon Master	24.99	16.90
Emmanuelle	19.95	13.90
Faleon	29.95	19.90
Fed. of Free Traders	29.95	19.90
Galdregon's Domain	19.95	13.90
Games - Winter Edn.	19.99	13.90
Gauntlet II	24.90	16.90
Hybris	24.95	16.90
IK+	24.95	16.90
Inc. Shrinking Sphere	19.95	13.90
Kristal	29.95	19.90
LED Storm	19.95	13.90
Manhunter	24.99	16.90
Millenium 2.2	24.99	16.90
Outrun Europa	14.99	11.90
Populous	24.95	17.90
Preeious Metal	19.99	13.90
Steve Davis Snooker	19.99	13.90
Super Hang On	24.95	19.90
Sword of Sodan	24.95	16.90
Teenage Queen	19.95	13.90
Tiger Road	19.99	16.90
TV Sports Football	29.95	19.90
Vietory Road	24.95	16.90
Vixen	19.95	11.90
Voyager	24.99	16.90
WEC Le Mans	24.95	16.90
Willow	24.99	16.90

*** Buy 3 or more games and ask for a FREE - WIZ CARD Controller ***
*** or US Gold Baseball Cap - While Stocks Last ! ***

ATARI ST - SERIOUS		
Degas Elite	24.95	16.90
First Word Plus	79.95	59.90
GFA Basie (NEW v.3)	65.00	49.90
Mini Office - Spreadsheet	--.--	16.90
Mini Office - Pro. Comms	--.--	16.90
Protext (4)	99.95	74.90
Sean Art + Draw Art	69.95	52.50
Turbo ST	39.95	32.90
WERCS Plus	49.90	37.90

AMIGA - SERIOUS		
AmigaDOS Toolbox	49.95	39.90
BBC Emulator	49.95	39.90
Deluxe Paint III	79.99	62.90
Deluxe Photolab	69.95	52.50
Fantavision	39.95	34.90
GFA Basic (V.3)	65.00	59.95
Home Accounts	29.95	22.95
Pixmate	49.95	39.90
Workbench 1.3	14.95	12.90
miniGEN	114.00	99.90

X-COPY (NEW V1.3) £29.90

Multiface ST (1.5 or later) £54.90
COPY ST (NEW V1.2m)....................£29.90

This is just a small selection of our VAST range of 68000 Software!
Phone/Write for full eatalogue - stating: Atari ST or AMIGA

All Computer Packs include: 1MB Disk Drive, Mouse, Manuals, Modulator...
and are delivered by NEXT DAY Carrier Service!

BYTEBACK DEPT NCE6 MUMBY CLOSE
NEWARK, NOTTS NG24 1JE

PAY BY CHEQUE, POSTAL ORDER OR USE YOUR CREDIT CARD
0636-79097

Access VISA

24 HOUR SERVICE

PUBLIC DOMAIN

OVER 500 DISKS
FOR THE
ATARI ST
The best selection available
anywhere in the Uk.

OVER 500 DISKS
FOR THE
COMMODORE
AMIGA
The best catalogue you'll
find anywhere in Britain.

OVER 300 DISKS
FOR THE **PC**
(IBM, Amstrad etc.
and compatibles)
A selection of some of the
best programs available.

send a stamp or phone for
a FREE Catalogue.
Remember to quote
this magazine
and your type of
machine (important)

SHAREWARE
from
£1:50
per disk

SOFTVILLE PD SERVICE
55 HIGHFIELD AVENUE
WATERLOOVILLE HAMPSHIRE
PO7 7PY Tel 0705-266509

EEC LTD
PRINTER CLEARANCE

★ BROTHER HR10 ★

Daisywheel 80 col. 12 C.P.S. 2K buffer

C.B.M. Dedicated Commodore version only. (Plugs straight in) inclusive of Tractor Feed £125.00
Booklets in English, French and German)
Previously sold at £335

★ SEIKOSHA 500 VC ★

DEDICATED COMMODORE Graphics Printer. 80 col. 50 C.P.S. 8 Country Character Set, Tractor Feed £149.95

ALPHACOM 32

DEDICATED SPECTRUM PRINTER AND INTERFACE, 32 col. (4 1/4"), white paper, fast, quiet, just plug in - £42.95

BROS HR5

(SUITS MOST MICROS)
80 col. 30 C.P.S., quiet, battery or A.C. operated portable (4lbs) £49.95 (previously sold at £159.95). Spare Power Units - Brother and Alphacom - £9.95. Consumables available for all models.
ORDERS: C.W.O. or VISA. Please add £6 UK, £10 overseas for postage and packing. All offers subject to availability.

Orders to:

Access

EEC LTD

VISA

18-21 Misbourne House, Chiltern Hill
Chalfont St. Peter, Bucks SL9 9UE
Tel: 0753 888866

PC UPDATE

Look and feel

Last month Apple Computer won the first round in a long-running legal battle with Microsoft and Hewlett Packard over the similarities between the Mac interface and the Windows graphics environment. The ruling so far covers only the terms of the original Apple licence to Microsoft, not the question of copyright. If the copyright ruling goes their way as well, though, it would set a dangerous precedent against different software products with a similar appearance. It also seems to me to be blatantly stupid!

Take the analogy of a car. With few specialist exceptions, all cars have four wheels, seats facing in the same direction, three control pedals (alright, two for automatics), a steering wheel and broadly similar controls for lights, heater etc.

Now, I've no idea which company was the first to put indicator controls on the end of a steering column stalk, but I do know that it has become standard practice for these controls to be there. The control of this aspect of a car is common to probably 95% of all cars. Yet it could be otherwise – they can have indicator controls on little switches in the middle of the dash, set into the steering wheel itself or on dash mounted protuberances. Wouldn't it be a touch awkward if the manufacturer of the first stalk-mounted indicators sued all the others and won on a 'look and feel' basis. Guess who would be the loser? Guess who *will* be the loser if Apple wins through?

Out and about

Isn't it nice to get out of the office for a bit and feel the wind in your hair and the call of the Open Road up your nostrils? Following this call, the other day we decided to take a trip to Beer (South Devon, not down the pub) and visit the newly installed Shareware Marketing. Their offices can most politely be described as bijou, but quite fitting to the quaint feel of this small coastal village of tea shops and tea shops.

Shareware Marketing has the feel of being about to boil over all the time, with its five staff flipping from phone to phone and order to order. The entire disk library takes pride of place in the middle of the room and master disks are fetched from this for duplication. Steve Lee used to use a worm drive as his master, but the current rate of updates to shareware products has led him back to floppies, which can be updated much more easily.

The other main change in the shareware market is that shareware itself is taking on a much more professional image. Going are the days of 'alternative' software, with orders coming in regularly from national corporations, and the software itself becoming better packaged and more like its 'commercial' counterpart.

Taster

Lap-Link is great. More about it next week.

Simon Williams

Protecting your environment

A few weeks ago I included details of a DEBUG routine which produces a short machine-code file to reset your PC from within a batch file. The idea was to set up a series of different environments tuned to particular applications – one for word processing, another for spreadsheets, a third for CAD etc. The way it worked was to copy specially prepared system and batch files into the AUTOEXEC and CONFIG files and then reboot to make them take effect.

I've been making use of this technique in setting up my 386 (which now has it 28ms hard disk; thanks Watford). I started by writing the system and batch files for each environment; let's take GEM as an example. The main consideration when running GEM is to remove any memory-resident programs which would reduce the main memory available to it. I therefore wrote a batch file free of Topcopy Plus and TopDos, my main two TSRs, but needed a second batch file to copy the special batch and system files into AUTOEXEC and CONFIG. There's no reason, though, why the same GEM batch file can't serve both purposes. Have a look at this one:

```
echo off
cls
if "%1"=="RUN" goto gemrun
echo SET UP FOR GEM
echo This routine will reset the machine and remove any TSRs from memory.
echo Check if you have any unsaved text files in TopCopy Plus before
proceding.
echo.
echo OK to continue? (y/n)
would
if not errorlevel 1 goto end
copy c:\sysfiles\gem.sys c:\config.sys
echo C:\BATCHES\GEM RUN > c:\autoexec.bat
warmboot
:gemrun
prompt $p$g
path c:\topdos;c:\msdos;c:\utils;c:\tcplus;c:\batches;c:\;d:\;e:\;
SUBST G: D:\GEM
RAMBIOS
KEYB UK,,\MSDOS\KEYBOARD.SYS
MOUSE
g:
call gem
c:
copy c:\sysfiles\confcopy.sys c:\config.sys
copy c:\batches\execcopy.bat c:\autoexec.bat
WARMBOOT
:end
```

This isn't as complex as it looks. The file's called GEM.BAT and is called by typing its name with no parameter. It first reminds me to save any text file in TopCopy, which would otherwise be lost, and uses a simple machine-code utility, WOULD, to return an errorlevel for a y/n answer (WOULD is included on the May PC PLUS SuperDisk). If all is OK, it copies the special system file into CONFIG.SYS and overwrites the contents of the current AUTOEXEC.BAT with an instruction to run itself, but this time with the parameter RUN.

With this parameter, the first part of the batch file is skipped and the second part sets up the environment and runs GEM. When the GEM session is finished, the batch file takes over again and copies the original system and batch files back into CONFIG and AUTOEXEC, from copies kept in the BATCHES sub-directory. It then reboots and everything is back to normal.

AMIGA BLIT

Money makes the world go round

You know, it's a tough life being a journalist. Take last Wednesday, for example; there I was minding my own business while typing away frantically on my keyboard, when all of a sudden I'm thrown on an express train to London with only a half-eaten press release to guide me to my final destination.

The reason for my little excursion was to attend the official launch of Psygnosis' latest Amiga mega-blast, *Blood Money* (the promise of free alcohol 'on-tap' had absolutely nothing to do with it whatsoever!).

There we were, a motley crew consisting mainly of journalists and programmers, all packed into a little room with a bar in one corner and a group of Amigas in the other. Guess which got the most attention? It's obvious really, Amigas are far more fun than enjoying a nice drink at someone else's expense, everyone knows that!

After a certain member of the journalistic trade had finished sneaking large amounts of After Eight mints into his coat pocket (no names named, he knows who he is!), it was down to the more serious business of the day; to get a good look at *Blood Money* and other new projects coming soon from Psygnosis.

Blood Money is the latest masterpiece from ace programmer Dave Jones, author of the highly acclaimed shoot-'em-up *Menace* (with graphics from the equally skilled mouse of Tony Smith). Dave and Tony, collectively known as DMA Design, have been working on *Blood Money* for over eight months, and the final product is most certainly something very special indeed. The game features over 1 Megabyte of graphics, 250K of music and some of the largest and fastest moving sprites ever to grace an Amiga screen. Suffice to say that if you miss this game, you are going to be very sorry indeed.

I asked Dave what his next project was to be and I received two answers. "A six disk mega shoot-'em-up with the largest sprites you've ever seen" and "A very bloodthirsty hack and slay game that will leave even *Sword of Sodan* for dead." Whatever DMA Design produces, you can be sure it's going to be well worth waiting for!

The other game coming soon from Psygnosis which is worth a mention is *Beast*. The game, programmed by Reflections, looks and plays in a similar fashion to the arcade hit *Rastan*, but what sets *Beast* way above the competition is its superlative graphics and sound. The game uses the copper chip to allow up to 128 colours on-screen at the same time and the 13 levels of parallax scrolling have to be seen to be believed; the sound of jaws hitting the floor could be heard for miles!.

Let me at it!

Blood Money certainly sounds like being one hell of a game, doesn't it! How would you like to get your hands on a completely playable demo version for absolutely nowt? If you're interested, then check out the next issue of our sister magazine, *ST/Amiga Format*, and then judge for yourself what a masterpiece of programming *Blood Money* really is!

Sampling Samplers

While all the other sound sampler manufacturers have been saying how great their particular wares are, probably the most significant sampling software release on the Amiga seems to have slipped by almost unnoticed. The product in question is the latest release of Aegis' well received *AudioMaster* sampling software, *AudioMaster* version 2.

Time For A Quick Tip?

Space is, as always, our worst enemy, but there's just enough space to squeeze this small tip for Daley Thomson's Olympic Challenge into this week's AmigaBLIT. The person to thank for this excellent tip is a certain Joan Brolosh.

To start on any event with 3 cans of Lucozade, do the following. When the high score table appears, type in HINGSEN-J and press [DEL]; the high score table will now have the heading 'Demo'. Now type in '-J' and press [DEL] again and the table will change to 'Mega-Demo'. You can now press F1 through to F10 to start on the relevant event with full energy.

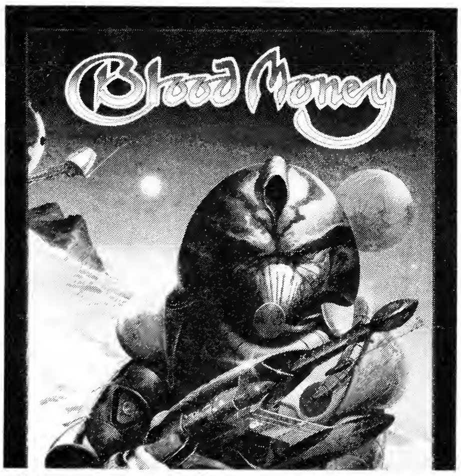
AudioMaster is only the software side of your ideal Amiga sampling setup, so you'll still need to buy the sampling hardware (check out FutureSound 500 if you don't already possess a sampler). But what *AudioMaster* does provide is all the tools that you could possibly need to allow you to grab and manipulate sampled sounds.

"What's so special about *AudioMaster 2*?", I hear you ask. Well, while other manufacturers have been trying to impress you with maximum sampling rates of 29 KHz, Aegis has somehow managed to raise its maximum sampling rate to a staggering 44 KHz (don't asked me how they've managed it, I'm still baffled!). What results are crystal clear (but memory gobbling) samples.

Unfortunately, anything sampled at a rate of greater than 29 KHz is only really of use within *AudioMaster 2* as no other packages yet support playback rates of greater than about 35 KHz.

The Amiga still has a very long way to go before it can even start competing with machines such as the Synclavier and Fairlight, but with *AudioMaster 2*, studio quality sampling on the Amiga is finally a reality.

Jason Holborn



• Psygnosis' Blood Money; Miss this and you'll be sorry

ADS MAIL ORDER

Dept NCE, Treetops, 78 Marsh Lane, Mill Hill, London. NW7 4NX
Tel: 01-906-3572 Fax: 01-202-1538

We Accept EXPRESS VOUCHERS

COMPUTERS

Amiga A500 Pack A	£348.99	Atari 520STFM Pack A	£268.00
Amiga A500 Pack B	£365.00	Atari 520STFM Pack B	£345.00
Amiga A500 Pack C	£420.00	Atari 1040STFM Pack A	£425.00
Amiga A500 Pack D	£518.00	Atari 1040STFM Pack B	£499.99
Amiga A500 Air Miles Pack	£450.00	Atari 1040STFM Music Pack	£425.00
Commodore 64 Hollywood Pack	£135.00	Amstrad PCW8256	£360.00
Commodore 64 Entertainment Pack	£178.99	Amstrad PCW9512	£480.00
Psion Organizer XP (32k ram)	£125.00	Psion Organizer CM (8k ram)	£96.00
Cambridge Computer Z88	£255.00	Z88 Modem	£155.00
Z88 128K Ram Pack	£49.95	Z88 512k Ram Pack	£180.00

PRINTERS

Amiga MPS1500C Colour	£267.00	Citizen 120D (2 yr. grntee)	£160.00
Epson LX800	£255.00	Micro P MP165+	£195.00
Micro P CPL-10EX 24 pin	£299.00	NEC P2200 Pinwriter 24 pin	£349.99
NEC P6+ 24 pin	£540.00	NEC P7+ 24 pin	£665.00
Star LC10	£199.99	Citizen HQP45 24 pin	£399.00
Seikosha SL-80AI 24 pin	£259.99	Seikosha SP-180AI	£120.00

MONITORS

Philips 7502 Green Screen	£85.99	Philips CM8833 Colour	£210.00
Philips 8852 Hi-Res Colour	£279.00	Commodore 1084 RGB	£267.00
Atari SM124 Mono Monitor	£129.99	Atari SC1224	£339.99

MODEMS

Demon 2 modem	£85.00	Pace Series Four 2123S	£239.99
Pace Series Four 1200S	£342.00	Pace Series Four 2400S	£425.00
Minor Miracles WS2000	£110.00	Minor Mir. WS3000 V22 bis	£550.00
Amstrad SM2400 Quad standard	£235.00	Linnet V21/V23	£145.00

MIDI EQUIPMENT

Casio CZ230S MIDI Keyboard	£180.00	Casio MT-240 MIDI Keyboard	£125.00
Eidersoft NM5000 Keyboard	£95.00	Casio Mains Adaptor	£8.00
Amiga Music System (whole package)	£165.00	Atari ST CZ Android Sftwre	£80.00

PERIPHERALS

Competition Pro Joystick	£11.00	Competition Pro Extra J/s	£13.00
Cruiser joystick	£9.50	Crystal Turbo Joystick	£15.00
Quickshot 2 Turbo	£10.00	Konix Speed King	£9.99
3.5" DS/DD disks per ten	£9.00	3.5" DSDD (Sony - per item)	£10.00
3" CF2 disks per ten	£21.00	Mouse Mat	£5.95
Aerial Switching Box	£2.95	Printer Stand	£24.95

ALL PRICES ARE INCLUSIVE OF VAT

We also deal with Atari, Amstrad, Cambridge Computers, Psion etc. so please ring to find the best possible prices on anything. There is too much software to list, but whatever is advertised in this magazine elsewhere, we can obtain at probably a better price. We also offer a special purchase deal - if you buy anything from us, whether it is a piece of software that cost £15.00 or a piece of hardware costing £500.00, on all future purchases we will give a special discount.

You don't have to pay to become a member of this club unlike so many others.

ADS MAIL ORDER
DEPT NCE, Treetops, 78 Marsh Lane, Mill Hill London. NW7 4NX
Tel: 01-906-3572 Fax: 01-202-1538

We Accept EXPRESS VOUCHERS

ATARI 520STFM
MAIL-CENTA NEW YEAR PACKS

PACK A
ATARI 520STFM
With Built in 1mb Disc Drive
Mouse, Owners Handbook,
Business Organiser
21 Game Software Pack
Joystick
ONLY
£359.95

PACK B
Atari 520STFM
With Built in 1mb Disc Drive
Mouse, Owners Handbook
Business Organiser
21 Game Software Pack
Joystick, Mouse Mat
Twin Joystick Extension Lead
Disk Storage Box - Holds 80
Ten Blank Discs,Computer Cover
ONLY
£389.95

PACK C
ATARI 520STFM
with Built in 1mb Disc Drive
Mouse, Owners Handbook
Business Organiser
21 Game Software Pack
Joystick
Plus!!! Philips CM8833
Colour Monitor with lead
ONLY
£569.95

Plus FREE!! Only from Mail Centa a superb Software Starter Pack comprising - First Word WordProcessor, Spreadsheet, Word Count Program, Spellchecker Program, Mono Monitor Emulator, DataBase, Neochrome Drawing Package, Towers of Hanoi Game, Pacman, Fruit Machine Simulation, Sensori

ALL THE ABOVE PACKS CURRENTLY AVAILABLE WITH A 1040STFM INSTEAD OF A 520STFM.
JUST ADD £100.00 TO THE PRICE.

ATARI 520STFM EXPLORER PACK

ATARI 520STFM Built in 1mb Disc Drive, Mouse Controller, BASIC Language Disc, Source Book and Tutorial Disk of Desk Accessories, Ranarama Game
ONLY £279.95

ATARI 1040STFM PROFESSIONAL PACK

ATARI 1040STFM Built in TV Modulator, Mouse Controller, BASIC Language Disk, Source Book and Tutorial, VIP Professional RRP £149 95
Microsoft Write RRP £149 95
Superbase Personal RRP £69 95
ONLY £449.95

PLUS PAY BY CASH OR CHEQUE (NOT CREDIT CARDS) ON ANY OF THE ABOVE 2 PACKS AND WE WILL GIVE YOU 10 BLANK DISKS

COMMODORE AMIGA A500
SPECIAL OFFERS

PACK B
Commodore Amiga A500
Mouse Controller
Owners Handbook
BASIC Program Guide
Workbench, Workbench Extras
Tutorial Disk
Modulator
ONLY
£369.95

PACK C
Commodore Amiga A500
Mouse Controller
Owners Handbook
BASIC Program Guide
Workbench, Workbench Extras
Tutorial Disk
Modulator, Nine Game Pack
ONLY
£389.95

PACK D
Commodore Amiga A500
Mouse Controller, Owners Handbook
BASIC Program Guide
Workbench
Workbench Extras, Tutorial Disk
Philips CM8833
Colour Monitor, Nine Game Pack
NEW LOW PRICE
£579.95

MONITOR

PHILIPS CM8833
Colour monitor
£219.95
Inc V.A.T, delivery and cable

PRINTER BARGAINS

Seikosha SP 180 (Commodore 64 only)	£109 95
Citizen 120D	£138 00
Citizen 180E	£158 00
Citizen HQP45 (24 pin)	£349 95
Star LC10	£199 95
Star LC 10/24 (24 pin)	£329 95
Panasonic KXP 1081	£169 95

All prices incl. V.A.T, cable & delivery Courier delivery £4 00 extra

Access

MAIL-CENTA
17 CAMPBELL STREET, BELPER, DERBY, DE5 1AP TELEPHONE 0773 826830

VISA

All Prices include VAT and Delivery to UK Mainland. All Goods Despatched same day whenever possible. Personal callers welcome at our Retail Shop but please bring this advert as prices may vary. Closed Wednesdays. Proprietor:- Martin Bridges

PC ENGINE SUPPLIES
PC Engines £195.00 (Works On Any TV)
£4.00 P&P for the Engine
THE FOLLOWING PC ENGINE SOFTWARE NOW AVAILABLE

Wonderboy	£27.00	Vigilante	£35.00
R-Type I	£27.00	Dragon Spirit	£35.00
Baseball	£27.00	Watura	£35.00
Victory Run	£27.00	Son & Son II (NEW!)	£35.00
Chan and Chan	£27.00	Dungeon Explorer (NEW!)	£45.00
Legendary Axe	£34.00	Motor Roader (NEW!)	£45.00
Tennis	£34.00	Winning Shot (NEW!)	£45.00
Alien Crush	£34.00	P47 Freedom Fighter (NEW!)	£45.00
Fantasy Zone	£34.00	We are now taking orders for the Sega 16	
Galaga 88	£34.00	Bit megadrive - price	£250.00

50p P&P for each Software Title

WE DON'T TAKE FULL PAGE ADS - WE PASS THE SAVINGS ON TO OUR CUSTOMERS!

Please make Cheques and P.O.s payable to:-

PC ENGINE SUPPLIES
223b WATERLOO ROAD, COBRIDGE,
STOKE-ON-TRENT, STAFFS, ST6 2HS
WE TRY TO BE THE FIRST WITH THE LATEST SOFTWARE
TEL: 0782 213993

We Accept EXPRESS VOUCHERS

ATARI..AMIGA..MACINTOSH...PC...DR.T...HYBRID ARTS

MIDI SOFTWARE
FOR ATARI AND AMIGA

We deal only in Computer Music so we can offer you the biggest choice plus the Specialist Knowledge to help you get the most from your Midi Setup.
Write or phone for our Price Lists containing over 100 Programmes, Accessories and Demo Discs.

Coming soon for the Amiga
PRO 24 and Music X
Phone for details & price

We Accept EXPRESS VOUCHERS

PRO PACKAGE
New ST Mega 1 + Monitor
PLUS Pro 24 £915

We Accept EXPRESS VOUCHERS

Amiga Owners
At last ...A Pro Featured Sequencer at a budget price.
Track 24 is a New Release from Comus featuring Real and Steptime Recording plus Notation Editing.

All this and more for only £75.00 or £100.00 with interface.

PASSPORT..STEINBERG.C-LAB..INTELLIGENT MUSIC

MIDITECH, THE COLOSSEUM, PORTLAND GATE, LEEDS, LS2 3AW TEL 0532 446520
ACCESS & VISA WELCOME MAIL ORDER AND TRAINING PACKAGES AVAILABLE

SECTOR SOFTWARE
Established 1985
0772 454328

Commodore Amiga A500 Computer with Modulator, Mouse, Workbench, BASIC disk, Extras disk and 10 FREE games
£389.00
Please note that the free Modulator offer will be dropped by Commodore from 1st April. Order early to avoid disappointment.

Workbench 1.3 Upgrade for Amiga owners	£15.00
Brother M1109 Printer	£155.00
Star LC10 Colour Printer	£275.00
Star LC10 Mono Printer	£240.00
Star LC2410 Printer (24 pin quality dot matrix)	£374.00
Bulk 3.5" Disks at the LOW PRICE of £1.00 each	
Philips CM8833 Stereo Monitor	£239.00
Amiga Write Cartridge	£15.00
Star Laserprinter 8	£2195.00
Brother HR40 Daisywheel (136 col)	£1095.00
Star NB24-10P (216 cps, 24 pin, 80 col)	£757.00
Brother HR20 (20 cps, Daisywheel, 80 col)	£499.00
Hi-Soft Basic compiler for the Amiga	£79.00
Amiga BBC Emulator	£45.00
Deluxe Paint 3	£75.00

Sector Software are suppliers of Quality software for the Sinclair QL and currently have 14 titles in our range. Phone or write for our full catalogue of QL items.

SECTOR SOFTWARE

We Accept EXPRESS VOUCHERS
Access

39 WRAY CRESCENT
ULNES WALTON
LEYLAND
LANCASHIRE
PR5 3NA
TEL: 0772 454328 FAX: 0772 454680

We Accept EXPRESS VOUCHERS
VISA

SPEX

Less is better

Good news for anyone who needs to improve their standard and style of writing – which obviously counts me in. The Spectrum's only thesaurus – *Fastword* – has just had a definitely-not-stingy £5 sliced off its price.

According to publisher Jim Bruce, whereas *Fastword* appears to beat its printed counterpart, for speed especially, he points out that when looking up more than one word or when loaded from disk it seems to be classed as a little overpriced. Hence the new improved price of £7.95 (inc P & P). It's a heartening and rare occurrence for anyone in the computer industry to admit they have overpriced a product and are prepared to remedy it, so hats off, pats on backs and other displays of respect to Bruce Publishing! Why can't Amstrad be as sensible?

Find the makers of *Fastword* at **72A Lawe Road, South Shields, Tyne & Wear NE33 2AJ**. And for an in-depth review of *Fastword* seek out issue 14 of *Express*.

Picture this...

I need someone to do me a favour. After all I've done, I think you owe me that much. Recently, a few letters have arrived wanting to know where you can get a circuit diagram of the Spectrum from. Investigations so far have drawn a blank. Not unsurprisingly, Amstrad didn't know anything about it (although one employee said he had heard of the Spectrum once or twice before). If you can help, write to the address at the end of the column and gain infinite Brownie Points.

• Have you got a circuit diagram for the Speccy? Amstrad hasn't...

...and this

Express received a letter from Softcat t'other week. It was a mite dismayed at the absence of its *Animator* utility in issue 20's *Art Attack* feature, particularly as arch rival package – *The Art Studio* – was mentioned. For some strange reason, probably a distinct lack of the old jangling and folding stuff, I never got to see this when it was released at the same time as *The Art Studio*.

Softcat has been wise enough to come up with a +3 version which I've become briefly acquainted with and thought you might like to know about.

As you're all Spectrum owners and therefore intelligent, you should by now have guessed that *The Animator* can do at least one thing other Speccy art utilities can't do, and that's animate. It can still be used as a standard drawing program and has features usually found in this kinda thing, like different types of brush, shape drawing and textured fills.

The standard screen drawing of this program is not as versatile and user-friendly as, say, *The Art Studio*, so if you want a straightforward paint package, you'd be better off buying that. However, if you're into extras, this package can offer the computing equivalent of furry dice, go-faster stripes and "My other car is a Skoda" stickers.

Included in the package is a total of four useful utility functions that were in some cases originally sold separately. What are they? Well, first there's a Print mode which allows you to stretch, reverse, distort and generally mess about with text. Also, there's a stand-alone program plastered with the word "Free" on the packaging and called the *Poster Machine*. This basically allows you to turn masterpieces into posters by printing them out in long strip sections. Next up is a font creator which does everything you'd expect very nicely indeed. The real reason for considering *Animator* over the other art utilities available, though, is the sprite designer. With this and a smidgen of talent you can design your sprites using the standard drawing screen, select them, store them and animate. A game created using this process is included on the +3 version and gives a taster of what you can achieve with skill, imagination and a following wind.

With this new +3 version of *The Animator* and the re-release of *The Art Studio*, we're seeing something of a reawakening interest in creative software. What I would really like to see is a new art package – there hasn't been a new one since '87 or thereabouts. If anything's going to undo the effects of prolonged exposure to coin-op converts, it's stuff like this.

Amimator is £12.99 for the 48K/128K+2 versions on cassette, £14.95 for the +D/Disciple version on cassette allowing transfer to disk, and £19.95 for the +3 version. The address for orders in PO Box 79, Macclesfield, Cheshire SK10 3NP.

One of the best

Don't ask me why, but I've been in a nostalgic mood all week. I've abandoned some of the latest software to come my way and have instead been playing some of the all-time faves. The British Museum would be interested in some of the software I've got; Atic Atac, Jetpac, 3D Starstrike, Ant Attack and Match Day have all been loaded.

Through this extensive testing, I've come to the conclusion that Elite is one of my favourite games ever. I know a lot of people think it's overrated, but I love the game. It's technically very good, with B & W graphics more atmospheric than the ST version's jolly colours and the gameplay has been tweaked to perfection. In short, it would be my Desert Island Disk...er, cassette. I could even use the lensloc to start a fire.

How about you? What are your all-time favourite games and why? If that's too heavy, let me know which game you enjoyed most last year. Send this and everything else Spectrum-related to SPEX, New Computer Express, 4 Queen Street, Bath BA1 1EJ.

Scoop!!!!

Staying with Softcat just a second longer, I couldn't resist passing on some exclusive industry news to you. The firm has just broken the shock horror (excited gasps) news that it is planning to unleash on an expectant market the Spanish language version of *The Animator*! That will certainly please the large number of Spanish-speaking Spectrum owning artists who read *SPEX*, I know.

Order it now at the bargain price of 2982.52 pesetas (at least I think it's a bargain). Incidentally, did you know that the Spanish for "The Ultimate Graphic Development Tool" is in fact "El Ultimo Graphico Desarrollado!!!" Can any linguists tell me why the Spanish get three exclamation marks and we get none? Answers on the back of a credit card to the usual address.

Robin Alway

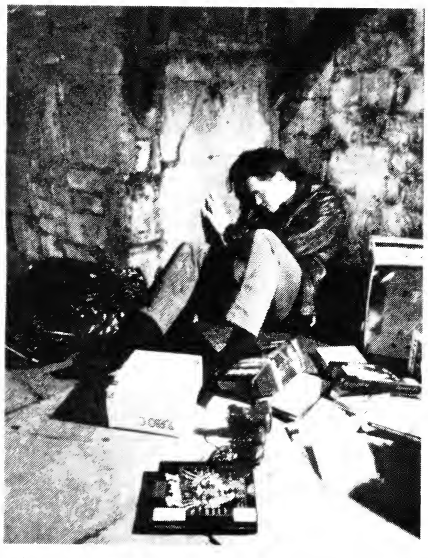
SECTOR 64 SECTOR

The programmer and the junkie

What's it like being a full-time freelance programmer trying to break into the world of commercial computer games? If you want to find out, then read on!

Ican Code gets up at twelve noon to start the day. Feeling tired, he goes downstairs and drinks his usual cup of cold tea, which was left behind from last light when he went to sleep at the keyboard. While sipping at his tea, he pulls his socks up, which had slipped down during the night. By this time, Ican stinks of rotten tea, after going through the same routine for the past five weeks. He's finding his game addictive enough to code, but what's it like?

Ican makes his way back upstairs, where he will stay until tomorrow. There's no need for him to turn the computer on, as he's left it on all night anyway. Ican says that if you leave it on all night you can use the power pack as central heating. Ican picks his disk out of the ashtray and boots it up.



• Can you really become a computer junkie – and is it catching?

For Ican, the typical computer junkie, life is gonna turn very bad. Ican jumps up and down in despair when his game won't load. Because Ican has a very short fuse, he instantly blows his top, sending everything including his valve TV crashing to the floor.

Ican is also very insecure – along with being short-tempered and smelly. He puts on his slippers and creeps downstairs with pen and paper to write a note to his parents. He's lost verbal contact with his parents by this stage, and his only now friend is *Laser Genius*. On the paper, he writes "Deer moM and dadd, coud yoo by me a new tv", and creeps up again and gets into bed hoping they won't wake him up to tell him off.

Ican patiently lies in bed pretending to be asleep when his angry parents replace his old TV with a new one. As soon as they go out, Ican gets up and tries again to boot up his disk. This time it works, as the disk has cooled down. Ican is delighted because his game now works and it's also in colour – but that doesn't matter much, as Ican Code's game has only one colour, and that's brown.

Ican sits down and starts coding. He's been sitting there six hours and is still going, except that his head is getting lower and he's starting to dribble on the space bar. One more hour passes, and then he's fast asleep, snug in the warmth of the central heating.

Can computers really do this to people? Unfortunately, they can. For example, we know of two people who started out being very friendly, but after a while stopped phoning and calling round. Go round for a social visit to see what's up and you find yourself not very welcome. Everything you say gets a short "yes" or "no" answer. And we believe it's catching, too. How do we know? The second person we knew started off visiting the first one, and ended up exactly the same...

A large percentage of games programmers are not like this because they discipline themselves by renting a small office away from their homes to do their programming. This helps the freelance programmer live a normal life – getting up early, travelling to work and then coming home at night to go out with the lads.

Tech time

Question: Marc Smith asked us whether a program eleven lines long on the 64 could convert a block of BASIC into machine code, as it can on the Electron.

Answer: I can only imagine from your letter that the Electron has a built-in compiler within its operating system which compiles a block of BASIC into machine code. Unfortunately, the 64 does not have a compiler built into its operating system, so a program to do this would be large, and only available commercially. You could use Laser BASIC, from Ocean, which has a BASIC compiler for turning BASIC into machine code.

Cheats

Thanks to *Sector 64* reader Marc Smith from Hants, we have infinite lives on that smashing shoot-'em-up *R-Type*. Reset the computer after loading and type:

```
POKE 12865,173
POKE 12957,173
SYS 32768
```

There will be no title page music, but you can't have everything. Sorry Marc, no free sub but at least you get a plug in *Sector 64*!

What's out

- Dark Fusion ▪ Gremlin
- Hopper Copper ▪ Firebird

DARK FUSION

In *Hopper Copper* you control a bouncing policeman on a space balloon bouncing around central London stopping robberies. The game scrolls left and right with a touch of flip screen up and down.

Ian + Mic

• A SMALL SELECTION FROM • OUR WAREHOUSE

HARDWARE & PERIPHERALS (OFFERS END 20th MAY)

	RRP	WAVE
Atari 520 STFM Explorer Pack	£299.99	£267.99 A
Atari 520 STFM Super Pack	£399.99	£337.99 A
Amstrad PCW8256 Computer/Word Proc.	£401.35	£361.22 ANC
Amstrad PCW8512 Computer/Word Proc.	£516.35	£459.19 ANC
Amstrad PCW9512 Computer/Word Proc.	£573.85	£451.81 ANC
FD-2 2nd 3" Disc Drive - PCW8256	£171.35	£105.10 C
FD-4 2nd 3" Disc Drive - PCW9512 (Genuine Amstrad Drive)	£171.35	£119.95 C
Amstrad CPS8256 Serial/Parallel Interface - PCW	£68.94	£47.96 D
Star LC10 Parallel F&T NLQ Printer	£297.85	£194.62 A
Epson LQ500 Parallel F&T NLQ Printer	£458.85	£308.25 ANC
Ribbon Fabric -PCW8256/8512/LQ3500	PKT 2	£5.40 F
Ribbon Multistrike - PCW9512	PKT 2	£5.00 F
Ribbon - PCW9512 Blue or Brown	PKT 1	£4.82 F
Ribbon Fabric - PCW9512	PKT 2	£5.40 F
Fabric Ribbon Re-inking Fluid (Aerosol)	£8.95	£7.95 E
Printwheels - PCW9512 (119 Foreign Styles)	£10.45	£9.41 E
*** * * AMSTRAD SERVICE EXCHANGE SPARES AVAILABLE - PHONE FOR PRICES * * ***		
Computer Labels 89mm x 36mm 1 Across Box 1000	£9.20	£6.44 D
Statements or Payslips for Sage Box 1000	£40.48	£20.24 C
Kempston AM35 Joystick Interface - PCW	£14.95	£11.21 D
Kempston AM45 Mouse & Jeeves Software - PCW8256/8512/9512	£49.95	£37.46 D
Kempston DF40 Mouse & Daatafax - PCW	£79.95	£59.96 D
Trojan Light Pen & Graphics Software - PCW	29.95	£22.46 E
BLANK DISCS & SOFTWARE		
Locofile Database - PCW (State model)	£29.95	£20.97 D
Caxton Cardbox Database - PCW	£99.99	£35.99 D
Cornix Simple Accounts II Prom. Edt. PCW	£99.95	£74.96 D
Cornix Card - Index - PCW (State model)	£34.95	£26.21 E
Amsoft/Maxell 3" Discs DS/All 3" Drives	Box.10	£21.00 E
Bulk 3" Discs DS/All 3" Drives Hard Cased	Pkt.10	£17.94 D
JVC 3.5" DS/DD 135tpi Bulk Discs	Pkt.25	£20.63 D
Verbatim 5.25" DS/DD 40/80T Blank Discs	Pkt.25	£6.82 D

Large range of books & software Business/Games/Utilities etc. Telephones, Answering Machines, Modems, Faxs, Photocopiers. All at good discounts. Far too many items to list here. Send 3 x 19p stamps for lists. Stating for which products. Eng. Mainland post & ins: (A) £5.75 (B) £4.60 (C) £3.45 (D) £2.30 (E) £1.15 (F) 58p (ANC) 3 Day £10.35, Next Day £13.80, COD + £2.30, Max UK Post chg. £6.90 per 20Kg/£500. All prices include VAT. All sales subject to our Trade Terms of Trading.

W.A.V.E. (Trade Dept. NCE 2004)
WALNEY AUDIO VISUAL & ELECTRICAL DISTRIBUTION
1 Buccleuch Street, Barrow-In-Furness, Cumbria LA14 1SR
Tel: 0229-870000 (6 lines) Hours: Mon-Fri 10.00-5.00

DISCOUNT COMPUTING CLUB

THE INTERNATIONAL DISCOUNT CLUB FOR USERS OF IBM ™ AND COMPATIBLE MICROCOMPUTERS

THE INTERNATIONAL DISCOUNT CLUB FOR USERS OF IBM™ AND ALL COMPATIBLE MICROCOMPUTERS

BIG SAVINGS

ON ALL COMPUTER PRODUCTS

RING NOW FOR YOUR CLUB CATALOGUE AND PRICE LIST

FREE

HOLIDAY IN FLORIDA USA WHEN YOU BUY £1,500 OF COMPUTER PRODUCTS

FREE

COMPUTER ADVICE AND GUIDANCE APPROVED ADVISORS TO THE INSTITUTE OF INDEPENDENT BRITISH BUSINESS

01 207 6777

42A SHENLEY ROAD, BOREHAMWOOD,
HERTFORDSHIRE, WD6 1DR.

PCW PATCH

The problem with viruses: they're boring

There has been a lot of talk about viruses lately. How safe is your PCW?

The good news is that you're almost certainly totally safe (or perhaps 'certainly almost totally safe'). The bad news is that this means you can't go on about viruses at dinner parties. The PCW is pretty safe because:

a) Viruses are written by people with a grudge, unbalanced exhibitionists, and insecure techies trying to prove their computing virility – categories virtually unknown among PCW owners.

b) Viruses are spread mainly through downloading and propagating public domain programs from bulletin boards, giving away pirate copies of software and so on – promiscuity rarely seen in PCW owners

c) Very few PCW owners use hard disks – if they're corrupted by a virus, you've probably lost all your data in the world. If a virus corrupts a floppy, it's a simple matter to use the backup – and floppies can be write-protected easily by flipping the plastic tag, preventing the virus from entering.

No virus has ever appeared on the PCW; they certainly can be written though. *PCW Patch* has seen such beasts written under laboratory conditions which, after a certain number of copies have been made, flashes up the message in the printer status line JAPANESE VIRUS STRIKES AGAIN and thereafter prints every letter l on screen and printout as a letter r.

Address maker

Keep your addresses stored on the same disc as your letters, but in a different group, each in a separate file. That way the addresses are displayed on LocoScript's disk manager in alphabetical order, and you can insert them into a letter using 'Insert text' (f1 *Loco 2*, f2 *Loco 1*). If you make your TEMPLATE.STD in that group have the right layout for an envelope then you can address one just by printing out the appropriate address file. In another file in that group keep a document containing all the names and addresses in your list in alphabetical order. Then you can print out your list any time for your Filofax or office wall.

Three's a crowd

The official Amstrad PCW magazine, imaginatively called Amstrad PCW Magazine, has this month merged with Your Amstrad PCW. It had already absorbed Computing with the Amstrad PCW last year making its official title now Amstrad PCW Magazine incorporating Your Amstrad PCW and Computing with the Amstrad PCW.

The railway station in Anglesey, Llanfairpwllgwyngyllgogerychwyrndrobwllllantysiliogogogoch, is another example of an artificially long name used to describe something not in itself interesting.

Any port in a C?

CPORT, which sold cables to connect a Z88 to a PCW, is no longer contactable.

Basil Pigg

QL corner

Northern Sinclair Show

As I write this, the Northern Sinclair Show has just taken place in Leyland, Lancs.

The ZX Microfairs have always been held in London, and there was obviously a need for something similar, but more accessible, for users at the other end of the country.

The show, organised by David Batty of Sector Software, was very successful, with an attendance of about 750. There will probably be another show in about three months time.

QL – PC file transfer via serial port

If you can use a soldering iron, you don't need any special hardware of software to transfer files from a QL to a PC, just a standard QL serial lead and a DB-25 socket for connection to the PC.

Plug the lead into the SER2 socket on the back of the QL, and identify the underside of the plug. Unplug the lead.

Viewing the plug from the underside with the lead downwards, the pins are numbered 1-6 from the left.

Referring to page 12 of the Concepts section in the User Guide, solder pin 1 (QL) to pin 7 (PC), pin 2 (QL) to pin 3 (PC) and pin 3 (QL) to pin 2 (PC). Connect pins 6, 8 and 20 together (PC).

You will find that making a table with the wire colours listed against the pin numbers will help considerably.

What you have done is construct a lead which connects the data lines between the two machines, with handshaking ignored at the QL end and permanently enabled at the PC end.

To be continued...

Laser printing service

If you would like the output from *Quill* or a DTP package printed properly and you can't afford your own laser printer, Taylor Made Systems Ltd will take your document on Microdrive cartridge or disk, and print it on its laser printer. Prices range from 30p a page for *Quill* documents, to £4 a page for DTP output and screen dumps. Taylor Made is on 0932 228721.

Microdrive cartridges

New Microdrive cartridges are currently selling for nearly £2 each, which appears exorbitant when compared with the cost of disks. However, given that they cost £1.50 when the QL first came out over five years ago, the current price doesn't seem that excessive.

By the way, if you want to re-use write-protected cartridges, just put a small piece of sticky tape over the write-protect tab position. You can then write to them without any problems. A small amount of Araldite could also be used.

John Torofex

UK HOME COMPUTERS

THOMSON RGB MONITORS

Top quality 14" RGB monitors. Ideal for Atari ST, but can be used with any computer that supports RGB. Built-in Mono sound, front panel controls and standard SCART input, medium resolution.
Comparable price £299.99p

OUR PRICE £179.95
Postage £6.05

We also have a range of IBM/COMMODORE/etc monitors in either RGB or Mono.
Send for further details. Prices from £49.95.

BROTHER HR5 PRINTER

9 Pin Dot Matrix printer that prints at 30cps. Epson compatible, and works from batteries or mains (adaptor supplied). Prints on plain or thermal paper up to A4 size. Very quiet in operation, standard Centronics input ensures compatibility with most home micros. Package includes 3 ribbons and English Manual.

OUR PRICE £59.95 Postage £3.05

SEIKOSHA PRINTERS

* GP50s (Spectrum dedicated) £79.95
* GP100A 50cps Centronics (Tractor) £89.95
* GP250X 50cps Centronics/Serial (Tractor) £99.95
* GP500VC (Commodore dedicated) £109.95
* GP550A Centronics £119.95
* GP700A Centronics Colour Printer £149.95

Please include £5.05 postage and packing

PC COMPATIBLES

Beltron PC XT's and AT's at really competitive prices. Send today for our colour leaflet and prices.

PC XT with 360k 5¼" floppy, 20mb hard disk, 4.77-10.00mhz Mono monitor £925.00
plus VAT and postage

PC AT with 1.2mb floppy, 20mb hard disk, 6.00-10.00mhz Mono monitor £1,250.00
plus VAT and postage

SEND YOUR REQUIREMENTS TODAY FOR A QUOTATION

SINCLAIR Q.L.

Fast 68008 CPU combined with 128kb RAM makes this a very special bargain. Features include multi-tasking, twin fast-access Microdrives, twin serial ports, twin user ports, TV and monitor outputs as standard. Package includes four business programs, i.e. Wordprocessor, Database, Spreadsheet and Graphics package.

OUR PRICE – (JM ROM) £99.95
(JS ROM) £119.95
Plus postage £4.05

SHARP LAPTOP

This highly engineered Japanese rechargeable LapTop with illuminated Supertwist liquid crystal display has a viewing area of 25x80 characters or 640x200 pixels bit-mapped graphics, built-in twin 3½" 1mb disk drives, 384kb RAM, 7.16Mhz 80188 CPU, QWERTY keyboard, complete with mains adaptor, MS-DOS 2.11 and manuals.

OUR PRICE £599.95
Plus £7.05 postage

VISA/ACCESS orders welcome. Prices subject to change without prior notice. All transactions are subject to our standard conditions of sale, available upon request. Personal callers welcome by appointment. All prices include VAT. Cheques/Postal orders with order.

UK HOME COMPUTERS
VISA
82 Churchward Avenue, Swindon, Wilts SN2 1NH
Telephone: (0793) 695034

BEEB BOX

A likely story

Shaggy dog stories abound in the computer world, but I swear that the following one is true.

Ten years ago a young man made a sketch in a notebook of some people dancing to a light & music show, and promptly forgot about it. But in 1986 he rediscovered the book, and so excited was he that he took his BBC micro and wired it directly into his music system. The results encouraged him so much that he took the machine to a party and connected it up to a 100 watt per channel amplifier.

The result – a resounding success. Until the graphics chip blew up half way through the evening. The idea survived, however, and has taken shape as the 'Bit Bopper', a fantastic £20,000 system powered by two Arc 440s for use by professional disc jockeys. Bit Bopper has already been covered in our sister magazine *ACE*, so get hold of a copy for more information.

Multi-faced Beeb

Two morals arise from this story. First, the 'Dull old Beeb' is still capable of inspiring great things from programmers. And the second is that you should never fool around with electronic devices if you don't know what you are doing.

The BBC micro bristles with so many interfaces that it's tempting to plug something in just to see if it works. Don't – there is mains electricity in there, and it could kill you.

The good, the bad and the ugly

A quick look at some recent releases confirms the variable quality of BBC software. *Circus Games* I would not recommend to anyone. Its graphics are coarse and its gameplay boring. *Superman*, on the other hand, has beautiful graphics, with a comic book style scenario and realistic sound. The gameplay is still a little tepid, but still worth a few hours of your time. *Return of the Jedi* is yet another conversion. In the Beeb version there are two colours and the game scrolls diagonally across the screen. I must admit that I found the game hard to play, but this will probably attract hardened games players.

ROM for improvement

There are some things in life whose time never quite comes. One of those things must be the Master ROM cartridges. The problem with the little beasties stems from the mechanism used to hold the ROMS in place. Made of brittle plastic and a weak spring, it will fall apart after limited use, and the plastic bit invariably gets lost. Trouble then occurs as the contacts bend, and the ROM chip legs contact the motherboard.

A quick and dirty solution involves taking a small screwdriver and pressing the end onto the contacts. This bends them enough so that the legs of the ROM are held firmly, and contact is made.

Andrew Brown

MSXTRA

Nintendo/Konami update

A few weeks ago I mentioned the apparently close links between Nintendo and Konami. Also, that Nintendo seemed to be selling MSX software, as De Gale Marketing, a company which usually sells Nintendo products exclusively, was selling MSX versions of the Ocean titles. I should like to point out that these titles can only be purchased from De Gale Marketing, and not through Nintendo, which only deals with its own products. The MSX titles are something De Gale is doing as a sideline to its main Nintendo distribution. Sorry if this has misled anyone.

While I'm on the subject, Konami software club members wondering where their magazine has got to will get their mag eventually.

I have been told that it is ready for distribution but they are waiting for Nintendo to finish printing its accompanying "official" magazine.

Out hype

MSX *Out Run* is now available, and plays very much like the Spectrum version. Briefly, you have to drive your red Ferrari Testarossa through various timed stages, each of which must be completed within a given time or you are out of the race.

The MSX version is extremely difficult, though, mainly because the scrolling isn't all it should be. The other vehicles on the road tend to jerk as they move – making overtaking a hit and miss affair (usually hit).

If you crash the car spins spectacularly, but, alas, the car's red colouring doesn't spin with you!

I must admit I have seen better written car racing simulators on the MSX, some of them four or five years old. One feature I did like, though, was the music. It seems that now the same sound chip is used on four major formats, the programmers can go to town.

I hope that *WEC le Mans*, due out shortly, is a better conversion than *Out Run*. Otherwise, the pricey *Crazy Cars* (£24.99) by Titus starts looking a reasonable buy – at least it scrolls well and is fast and furious.

More games

There seems to be a great deal of interest at the moment in writing games for the MSX. Sublogic's first title for us UK users is Flight Simulator and Torpedo Attack – supplied on ROM cartridge for the MSX 1 and 2 at £19.95. If you have difficulty finding it, D L Chittenden Ltd (0494 784441) should be able to help.

Grandslam continues to release MSX games. PacLand is out now and Thunderbirds will be available shortly. This company is also responsible for the excellent Arcade Classics, and deserves a round of thanks for its continued support.

Keith Neal

— SPECIAL OFFER — SPECIAL OFFER — SPECIAL OFFER — SPECIAL OFFER — SPECIAL OFFER —

PUBLIC APOLOGY

We at M.D. Office Supplies would like to take this opportunity to apologise to all its competitors.
We shall, with immediate effect supply,
COMPUTER DISCS AND STORAGE BOXES ETC.,
AT BELOW WHOLESALE PRICES

JUST LOOK AT THESE AMAZING OFFERS

5¼ 5.25" DISCS & BOXES 5¼

25 5.25" DS DD 96 TPI with 50 Capacity Lockable Storage Box	£12.49
50 5.25" DS DD 96 TPI with 100 Capacity Lockable Storage Box	£18.49
75 5.25" DS DD 96 TPI with 100 Capacity Lockable Storage Box	£23.49
100 5.25" DS DD 96 TPI with 100 Capacity Lockable Storage Box	£29.49
200 5.25" DSDD 96 TPI with 2 100 Capacity Lockable Storage Boxes	£54.99

ALL DISCS ARE CERTIFIED 100% ERROR FREE
AND ARE SUPPLIED WITH FULL USER SETS
AT M.D. OFFICE THE BEST COST LESS

3½ 3.5" DISCS & BOXES 3½

25 3.5" DS DD 135 TPI with 40 Capacity Lockable Storage Box	£22.95
35 3.5" DS DD 135 TPI with 80 Capacity Lockable Storage Box	£31.95
45 3.5" DS DD 135 TPI with 80 Capacity Lockable Storage Box	£37.95
55 3.5" DS DD 135 TPI with 80 Capacity Lockable Storage Box	£44.95
65 3.5" DS DD 135 TPI with 80 Capacity Lockable Storage Box	£49.95
75 3.5" DS DD 135 TPI with 80 Capacity Lockable Storage Box	£59.95

ALL DISCS ARE CERTIFIED 100% ERROR FREE
AND ARE SUPPLIED WITH LABELS

ACCESSORIES

3.5" 40 Capacity Lockable Box	£4.95
3.5" 80 Capacity Lockable Box	£6.95
5.25" 50 Capacity Lockable Box	£5.95
5.25" 100 Capacity Lockable Box	£6.95

3.5 or 5.25 Head Cleaner £2.95 only if ordered with other goods
Mouse Mats £2.95 only if ordered with other goods

BULK BUYERS

250	DSDD 5.25"	£64.99
500	DSDD 5.25"	£119.99
1000	DSDD 5.25"	£219.99
150	DSDD 3.5"	£110.00
250	DSDD 3.5"	£169.99
500	DSDS 3.5"	£316.99

PRICE AND QUALITY GUARANTEE
All our Discs are top quality products and are certified 100% error free. Should you ever see a comparable product advertised in this magazine at a lower price we will not match it we will
BEAT IT GUARANTEED

VISA
We Accept EXPRESS VOUCHERS
M.D. OFFICE SUPPLIES
We Accept EXPRESS VOUCHERS
Access

18 CRESCENT WAY, FARNBOROUGH, KENT BR6 9LS
TELESALES HOTLINES: 0689 61400

All prices include VAT and Delivery UK only
Supplied subject to availability. E & OE

— SPECIAL OFFER — SPECIAL OFFER — SPECIAL OFFER — SPECIAL OFFER — SPECIAL OFFER —

J.D. LEWIS COMPUTERS & REPAIR SERVICE MAIL ORDER ONLY

5 1/4	DSDD 96tpi Unbranded	£3.95
5 1/4	DSDD 48tpi KAO	£8.95
3 1/2	DSDD KAO	£16.95
3 1/2	DSDD Kodak/3M	£15.45
Disc Cleaners	5 1/4 or 3 1/2	£3.50
5 1/4	Storage Box 140 Capacity	£8.95
3 1/2	Storage Box 80 Capacity	£7.95

Mouse Mats (Red or Blue) Soft Type			£3.75
Amiga/ST Printer Leads 2m.			£7.50
Spectrum Joystick Interface			£7.50
Spectrum Joystick Dual Interface			£8.50
T.V. to Computer Leads			
1.2m long	£1.95	2m long	£2.45
3m long	£2.95	4m long	£3.45
Spectrum + 3 Cassette Leads			£3.45

All items subject to availability. P&P FREE on all orders over £10.00.
Otherwise add 65p
Full Catalogue Available Shortly. Send Large S.A.E. for your copy.

We Accept EXPRESS VOUCHERS

Make Cheques & P.O.'s payable to:
J.D. Lewis
97 Chaplin Road, Longton,
Stoke on Trent, Staffs. ST3 4RH
Tel: 0782 323348

We Accept EXPRESS VOUCHERS

EURO ST/AMIGA

HIRE AND PLAY LATEST ST HITS FOR ONE WEEK!
Uk and Irish ST/AMIGA owners
Send your address
for more information to:
EURO ST, KINSELLA HOUSE,
JOHNSTOWN, SEA ROAD, ARKLOW
CO. WICKLOW, EIRE.

PRINTER RIBBON RE-INKING

Sample prices:

PCW8000s	£1.65	Ams. DMP2000	£2.00
Brother M1009	£1.65	PCW9512	£1.90
Citizen 120D	£1.65	Brother AX10	£2.20
Epson LX/RX80	£1.65	Com're MPS803	£1.65
Image Writer	£2.00	Epson MX 100	£2.60
		Star LC10	£1.65

For other makes phone 08907 50965
Post used cassette(s) with payment to:
ALADDINK (Dept CE), Eyemouth,
Berwickshire, TD14 5AP

BLITSOFT
Amiga Public Domain Club

£5 per year subscription gives you
- 3 introductory disks from our rapidly growing catalogue
- FREE disk for every 3 purchased
Join now or send S.A.E. (A4) for catalogue
Members will receive catalogue and disk vouchers
All Disks £2.50 incl. P&P

Send Cheques/P.O.'s to:
BLITSOFT, 6 Dorney Place,
Bradwell Common, Milton Keynes,
Buckinghamshire MK13 8EL

PROGRAMMERS PUBLIC DOMAIN LIBRARY

FOR THE VERY BEST UTILITIES, SOURCE CODE ASSEMBLERS, COMPILERS, ETC. FOR THE ATARI ST PROGRAMMER
All languages catered for:
For FREE catalogue send 19p stamp to:

ZZ SOFT
3, RIVERDALE HOUSE, MYTHOLM CLOSE,
HEBDEN BRIDGE, W. YORKS. HX7 6BP
Run by a programmer for programmers!
0422 845528

EAST MIDLANDS PUBLIC DOMAIN LIBRARY

Amiga PD disks over 400 in stock!
£5 p.a. Subscription including 2 FREE Catalogue Disks (updated FREE!)
Virus X, Guardian etc. Virus Fillers in Stock
Also Blank Disks, Labels, Disk Banks etc.

RING NOW FOR PRICES

Cheques or Postal Orders payable to:
E.M.P.D.L.
54 Watnall Road, Hucknell, Notts, NG15 7LE.
Tel: 0602 630071

ASTROLOGY for beginners

Teach yourself astrology using your Computer

Buy a Starter Pack comprising a simple program to calculate a horoscope, an introductory booklet and 2 self-teaching programs (how to interpret the horoscope)
ONLY £12.50 No previous knowledge required
For ALL Amstrads, Atari ST's, BBC, Spectrum, C64, Dragon, MSX and IBM.

Payment by Access/Visa, Cheque, P.O. PLEASE STATE MAKE OF COMPUTER or send s.a.e. (about 9" x 7") for free catalogue giving details of our wide range of programs for **PROFESSIONAL ASTROLOGERS** *including complete natal interpretations and forecasting.*
Also **I CHING, GRAPHOLOGY, BIORHYTHMS, etc.**

ASTROCALC
(Dept NCE) 67 Peascroft Road, Hemel Hempstead,
Herts HP3 8ER England. Tel: 0442 51809

THIS SPACE ATTRACTS ATTENTION !

FOR JUST £21

CALL SARAH KING TO RESERVE YOUR SPACE NOW!!
ON 0225 444439
OR 0225 446034

ATTENTION! AMIGA, ST, 64 OWNERS

SOFTWARE AT VERY LOW PRICES.
ROBOCOP TO ACCOUNTS PROGRAMS.
£1-£5. NOWHERE CHEAPER.
For Amiga & ST Software,
SEND £1 (Cheque/P.O./Cash) for Catalogue
payable to C. Acorn.
Send to:

ELITE MICROS
7 Goulding Court, Clarendon Road,
London, N8 0DB

AMIGA MEMORY EXPANSIONS

MX1 - MEMORY EXPANSION BOARD
Low cost, high quality 1/2 meg. switchable board. Ideal for the latest games needing 1 meg. of memory. ie. Dragon's Lair, Dungeon Master, etc.
Just plugs into your A500 memory expansion slot. MX1 Expansion
ONLY £84.95 inclusive

MX2 - All the features of the MX1 plus battery backed time and date.
MX2 expansion, only **£99.95** inclusive

OR Your Board fitted with 16 * 256K Dram chips.
Price includes testing and return P&P.
ONLY £62.95

DRAGON'S LAIR, 6 DISKS, 1 MEG ONLY. £34.95
DUNGEON MASTER, 1 MEG ONLY. £19.95

All prices include postage and packaging. Cheques/Postal Orders to:

We Accept EXPRESS VOUCHERS

C & M Micros
25 Middlefield Road,
Bessacarr, Doncaster. DN4 7EB

We Accept EXPRESS VOUCHERS

THE ULTIMATE INVESTMENT!!

SPEED TIPSTER
FROM
PREMIERSOFT

Speed Tipster is the Fastest and Easiest Horse Tipster to use of any Horse Tipster Programs currently for sale. Its Performance is staggering to say the least. £1740 Clear Profit to a £10 Stake. But don't take our word for it, this is what an investor from Herts said:-

> "A cracking bit of Software. I'd struggled with another product and lost £20 in six weeks. Not only that, it took ages to type in the data and cost nearly four times as much as yours. Your miraculous Speed Tipster, however, won first time out and since then I've had a 16-1 Winner and a couple of others. Beats me how it does it."

NEED WE SAY ANY MORE!!

COST? ONLY £15.00 inc TAX & P&P
AVAILABLE FOR ATARI ST MED/LOW RES
MAIL ORDER ONLY
COMING SOON FOR:- SPECTRUM, C64 AND BBC/ELECTRON

FROM: PREMIERSOFT
46, WADHAM ROAD,
PORTSMOUTH
P02 9EE

Freeway PD

at Exmouth Micros
Tel: 0395 267734

13/15, South Street, Exmouth, Devon EX8 2SX.

Public Domain Software
5.25" cost £2.00 3.5" cost £2.50
ATARI ST IBM PC AMIGA

P.S. Please note that Freeway Software Ltd has no association with us. We are independent.

COMPUTERS & BUSINESS

The Home Study course that works. Learn about the role of computers in today's businesses.

Study in the comfort of your own home, our easy Home Study course covering such topics as:

*** Computer at work ***
*** Programming in BASIC ***
*** Graphics ***
*** Machine code ***
*** Commercial applications ***

FREE brochure, no obligations from:
IDEAL SCHOOLS
FREEPOST CU4
GLASGOW G1 4BR

FREE !!! (1 per Household)
10 Wrap Around 3 1/2" Disk Labels
S.A.E. to: N.B.S. (Label Offer)
21, Priory Rd, Newport, Isle of Wight

WANTED

ALL COMPUTER
HARDWARE/SOFTWARE WANTED
FOR CASH OR EXCHANGE
NOTHING REFUSED!!
01 727 0424

LES

G
.00
.90
.20
.65
.60
.65

Y
E
OR

o:
,

ATARI ST PIRATE PACK

Pirate Software has collected the highest quality Atari ST Public Domain Software and brought them together on the ST Pirate Pack Collection.
Over 30 Titles of the best Public Domain Software around.
Available on 10 Single Sided Disks or 5 Double Sided Disks.
All orders will receive a FREE 10 Disk Storage Box.
The Best Games plus the Best Word Processor, Database, Spreadsheet and Art Programmes available.
For under 49p per title.
This Pack is exclusive to Pirate Software.
Send a Cheque or Postal Order payable to:

PIRATE SOFTWARE
for 10 Single Sided Disk Pack for only £19.99 or
5 Double Sided Disk Pack for only £14.99

PIRATE SOFTWARE
36, CHESTER ST.
NEWCASTLE ON TYNE
NE2 1AV

TRACK COMPUTER SYSTEMS
Track Specialise in Hard Drives, Floppy Disks, Serious Software for the AMIGA ATARI and PC.
And the highest degree of customer care.
Call us for Service beyond the sale.

Amdrive A500 30 Mb Hard Disk
Check the reviews in ALL the leading mags. This drive is the fastest, most reliable and cost effective hard drive available for the AMIGA in the World.
38 ms access time. it loads
DPaint II in under two seconds!
TRACK PRICE £399.00 FULLY INCLUSIVE OF VAT AND POSTAGE AND 1 YEARS FULL REPLACEMENT GUARANTEE.

TRACK LEADS THE MARKET IN FLOPPY DISKS.
CHECK OUT THESE AMAZING PRICES.
HIGH QUALITY DISKS CAN'T BE FOUND CHEAPER

Sony Bulk Buy	25+	50+	75+	100+
3.5 Double Sided Double Density 135tpi	99p	97p	95p	91p

TRACK also supply VERBATIM...DYSAN... 3M... etc.
Each Disk carries a Lifetime Guarantee.

TRACK SUPPLY FOR ALL APPLICATIONS..
HARDWARE AND SOFTWARE..
CALL US FOR YOUR QUOTE.
WE EVEN HOLD OUR LINES OPEN UNTIL 9pm DURING THE WEEK TO GIVE YOU THE CUSTOMER A BETTER SERVICE.

To order TRACK Products make cheques, postal orders payable to Track Computer Systems.
All our prices include VAT and delivery to your door.

PHONE FOR BROCHURE 24 HOURS JUST LEAVE YOUR NAME AND ADDRESS.

PHONE TRACK ON 0773 531991 24 HOURS, MANNED UNTIL 9pm DURING THE WEEK.
FAX TRACK ON 0773 765721
COMPUNET ID SS21

TRACK ARE RECOMMENDED COMPUNET DISTRIBUTORS
TRADE ENQUIRIES WELCOME
Track Computer Systems, Systems House,
Braemar Ave, Eastwood, Nottingham NG16 3JY

MISSION IMPOSSIBLE BBS
Megabytes of files to download 24 hours a day
Resident professional systems engineer for tech queries
Latest US files available
Rip-off suppliers section
0602 - 654329

ST/AMIGA HARDWARE AND SOFTWARE - B-BYTES
Expert advice and keen prices.
HOME AND EDUCATIONAL - B.WARE/KIDSOFT.
B.Spell/ B.Base 2/ Kidsoft Maths/ Playspell - All at £14.95 each.
Construction Set and Data Disks at £9.99 each.
See us on Stand 26 & 27 at Essex Computer Games Show. April 21st - 23rd.

B.WARE/B.BYTES.
DEPT NCE 19 SOUTHFIELD ROAD
HINCKLEY, LEICESTERSHIRE. LE10 1UA
0455 613377
Mon - Sat 9am - 5.30pm

VISA

PRESTEL/TELETEXT 14" MONITOR
with connections for Keyboard, Printer and Telephone.
BARGAIN £150 o.n.o.
0652 660242

COMPUTER SUPPLIES
Simon Basic Extension (64)
£9.95
10 Microdrive Cartridges (used)
£9.95
Prices include VAT and P&P
Cheque/P.O. to:

OMNIDALE
23 Curzon Street, Derby DE1 2ES
Phone: 0332 291219

DATA BUREAU PD+ CLUB
IBM DISKS AND ATARI ST DISKS

24 Hulman Road, Exmouth,
Devon, EX8 3HS.
Telephone: 0395 266720

Send for details of our new P.D. Software range:-
Or join our Club at £7.00 per Annum. You receive regular newsletters. Library disks free utilities and features on programming computers and help with your problems.

Or you can just send a SAE for our catalogue:
Listing for disks. All disks are £1.50 - 5 1/4. £2.50 - 3 1/2. Cheaper if you are a Data Bureau member. Members can contribute to newsletter and send in progs. etc. to help each other.

RING OR WRITE NOW
Please make all cheques payable to T. Hammond
We also specialise in helping the small business set up with computer software.

DON'T DELAY JOIN TODAY.

CPC centre

French dressing

Good news from Birmingham giant US Gold, which has signed a deal to distribute the games of French label Loriciels. As a result, we can expect as many as a dozen new titles over the coming year.

It's always good to hear about a deal to bring new titles into the CPC market. What's especially exciting, though, is that the French have long been among the CPC's biggest fans. It so happened that the 464, and later the 664 and 6128, arrived just at the time when the French were waking up to home computers.

Ever been had, Phil Morley?

Oh dear. You know how chuffed you feel when you spot an April's Fool story, especially if you think it will actually catch one or two of the less perceptive? I had the following letter from Phil Morley last week about apparently sensational happenings at Wacci, the quirky but loveable CPC fanzine: "My mole at Wacci Towers tells me there's trouble at Mill. Wacci is now in the hands of its third owner, and the latest tells us he does not have a CPC but an Amiga! A what? That's right, the confused offspring schizophrenically marketed, overpriced patience-tester foisted upon unsuspecting individuals by Commodore." Phil ends his missive by insisting that this is 'NOT an April Fool.'

Bong! You've been had, Phil me old mate. Sardonic Wacci funster Steve Williams reveals in the genuine latest fun-filled issue that indeed it was all an April Fool's stunt – as, of course, was the "Under New Management" cover.

PS: The story may ultimately owe something to the troubled ACU, where for the first few weeks of its life under the comfortable wing of Focus Publications I'm told there really and truly wasn't a CPC to work on. And that definitely isn't an April Fool's story!

As a result, Loriciels has a great deal of experience in producing CPC software. Furthermore, it is an enormously important market, so that if Loriciels releases a bad Amstrad version of a new game it virtually kills it stone dead.

First fruit from this new liaison is *Skweek*, which I've just this week seen in development. Due for release soon, it's been described by US Gold's European Sales Co-ordinator Alexa Czechowski as "a super-modern 99-level version of *Pacman*," whose role in life is to clean up his planet (very ecologically sound, that) by painting all its tiles pink instead of blue. Naturally, however, there are baddies out to prevent him doing this good work. *Skweek*'s appeal as a "furry orange bundle of fun" is evidently aimed at the younger player, a market traditionally the preserve of budget bandits. It'll be interesting to see if the loveable lump cult does take off: expect a sequel if it does.

One thought occurs: I wonder what is to become of the considerable back-catalogue of Loriciels games developed over the past two or three years? There are some good titles out there that we've not had a proper look at in this country. Perhaps if there's enough interest we could finally get to see it.

Also due out soon from US Gold is *Forgotten Worlds*, the latest in the Capcom series of coin-op conversions. It's the first project of Ark Developments, a new team basking on the beaches of sultry Walsall (shome mishtake shurely). More about *F W* next week.

And finally word has it that the Brummie brigade has firm intentions of releasing an Amstrad version of the sequel to *Heroes of the Lance*. It's still a very long way off – expect it not long before Christmas – but D 'n' D'ers will no doubt be chuffed, as I am, at this good news.

Future News Editor in own goal blunder...

...by our football correspondent I. Dontmindifido

The confrontation eagerly awaited all season finally took place last Thursday,' when the might of Microprose took on the Future boys.

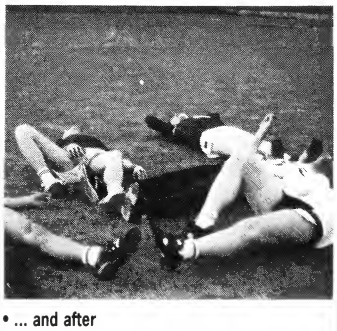
Microprose Rangers, best known for their flying and combat simulations, but rapidly branching out into other areas (it says here), hosted the five-a-side soccer game. Visitors Future Publishing (responsible for *Express*, *AA* and four other nearly as highly regarded magazines) fielded a team that included Carey and *Express* news editor Colin Campbell.

The football was typical Wimbledon v. Luton stuff, with both teams displaying real flashes of mediocrity amidst a general atmosphere of incompetence. Microprose opened the scoring with a blistering miskick that completely fooled the Future custodian of the uprights. But the brave Future boys soon came back from this early setback to take control of the proceedings.

The plucky Bath team, however, could only stand and watch in horror as Microprose's lethal utility player Martin 'Tiger' Moth placed a beautiful through-ball that richocheted off Colin Campbell for a classic own goal. "Obviously I've learned everything I know," Moth commented, "from Microprose Soccer, a superb soccer sim available soon from –" gerroff Moth.

A rematch has been offered.

• Posing madly (Carey kneeling in the Amstrad Action teeshirt): before...



• ... and after

PS: Future eventually scraped through 13-3. Carey got six.

Steve Carey

We Accept EXPRESS VOUCHERS

Top Software at rock-bottom prices from *SWIFT SOFTWARE*

We Accept EXPRESS VOUCHERS

SWIFT SOFTWARE is a new force in top quality, low cost software. Due to our buying power we can purchase software at probably the lowest prices. In return we pass these discounts on to you - with our 10 day money back guarantee.

As part of a special promotion we have teamed up with Arnor to provide the best ever deal on their range of CPC products. Many prices have been slashed by over 30%, and you can save a massive £25 if you buy the Rombo & Protext Startup Kit!

Remember, *these prices can only be held this low for a limited period, so send in your order today!*

Protext - Without doubt the most sophisticated word processor you'll find on any home micro. Its ease of use and advanced range of features are normally only found in business systems costing many times more. Protext is the number one word processor for the CPC!

• Extra Fast • Works with any printer • Flexible find and replace • Complete control over page layout • Word Count • Many print options.

R.R.P.	Disc £26.95	Rom £39.95
OUR PRICE	**£19.50**	**£29.50**
You Save	£7.45	£10.45

Prospell - With Prospell you can produce 100 per cent error - free documents, eliminating odd words and dubious spellings. You can also add words to create your own dictionary.

• Can check Protext text in memory • Works with Tasword, Amsword, and Wordstar • Over 33,000 word dictionary • Checks at up to 2,000 words per minute • Finds words and anagrams

R.R.P.	Disc £24.95	Rom £34.95
OUR PRICE	**£18.50**	**£24.50**
You Save	£6.45	£10.45

Promerge - Promerge is more than just a simple mailmerger for standard letters. It includes powerful mathematical and text functions and, of course, integrates perfectly with Protext.

• Read data from keyboard or file • Conditional printing • Microspacing • Typewriter mode • Link files at print time • Reformat while printing

R.R.P.	Disc £24.95
OUR PRICE	**£19.50**
You Save	£5.45

Promerge Plus - This rom offers all the features of the Promerge disc plus, among other features:

• Two file editing • Background printing • Box/Column mode

R.R.P.	£34.95
OUR PRICE	**£24.50**
You Save	£10.45

Maxam - The standard Assembler/Monitor/Editor for developing Z80 machine code. Used by many top software houses, this is an essential utility if you want to create machine code programs.

•Plain English error messages • Disassembler • Memory editor • Full screen program editor • Mix Basic and machine code

R.R.P.	Disc £26.95	Rom £39.95
OUR PRICE	**£19.50**	**£29.50**
You Save	£7.45	£10.45

Maxam 1.5 - Enhanced version of the extremely successful assembler/monitor, designed to be used from Protext. The editor has therefore been removed, leaving room for many new features.

•Assemble from within Protext • Comprehensive diagnostics • Change register contents • Resume from breakpoints • Load/save machine code directly • Many new assembler directives • All other features retained.

R.R.P.	Rom £29.95
OUR PRICE	**£22.50**
You Save	£7.45

BCPL - One of the fastest, most flexible programming languages for the CPC. It is the precursor to C and has been used to write many operating systems and other major programs where speed is essential.

• Comprehensive I/O libraries • Create your own function libraries • Full control of graphics and sound • Example source files • 60 page manual • Full screen editor and Space Invader game supplied.

R.R.P.	Disc £24.95	Rom £29.95
OUR PRICE	**£18.50**	**£22.50**
You Save	£6.45	£7.45

Utopia - Once you have installed Utopia you won't know how you managed without it! It gives you 50 new commands - all of which are available without having to write a single program

• Test and graphics screen dumps • Disc utilities - format, copy sector editor and much more • Automatically set function keys • Virtually unlimited function key space • Basic programming utilities • Rom management commands • Easy access to REN and ERA on a 464

R.R.P.	Rom £29.95
OUR PRICE	**£22.50**
You Save	£7.45

There's never been a cheaper way to get into rom software!

Rombo & Protext startup kit - The Rombo is a sturdy box which can hold up to eight roms. And if you run out of room, you can simply add another. It comes with a cover, so you can keep your roms safe from dust and damage. Combined with Protext, the fastest, most reliable and biggest selling Wordprocessor for the CPC, you'll have a setup to rival systems many times the price.

- Protext instantly accessible
- Seven free sockets
- Select high or low bank (allowing addition of 2nd rom box)
- On/off switch for each rom
- In and out expansion port sockets

RRP	**£74.90**
OUR PRICE	**£49.50**
YOU SAVE	**£25.40**

Please send me the following items: (please tick)

	Disc	**Rom**
Protext & Rombo	--.--	£49.50 ( )
Protext	£19.50 ( )	£29.50 ( )
Promerge	£19.50 ( )	--.--
Promerge Plus	--.--	£24.50 ( )
Prospell	£18.50 ( )	£24.50 ( )
Utopia	--.--	£22.50 ( )
Maxam	£19.50 ( )	£29.50
Maxam 1.5	--.--	£22.50 ( )
BCPL	£18.50 ( )	£22.50 ( )

I enclose a cheque/Euro cheque/PO made payable to: ***SWIFT SOFTWARE***

Name ____________________

Address ____________________

____

Post Code ____________ Tel: ____________

SWIFT SOFTWARE, NCE 24, 347 LONDON ROAD, HAZEL GROVE, STOCKPORT, SK7 6AA. 061 456 0926

MAIN MEDIA

FREEPOST, ANDOVER, HANTS. SP10 4BR
Tel: 0264 333830 (24 hrs)

We Accept EXPRESS VOUCHERS

UNBRANDED LIFETIME GUARANTEE

We Accept EXPRESS VOUCHERS

	QUANTITY	10	20	30	40	50	100
31/2" SS/DD	135TPI	£7.95	£15.50	£22.75	£29.50	£35.75	£69.95
31/2" DS/DD	135TPI	£8.50	£16.50	£23.95	£31.25	£37.95	£74.95

	QUANTITY	25	50	100	250	500
51/4" DS/DD	48TPI	£7.25	£13.95	£26.95	£64.95	£124.95
51/4" DS/QD	96TPI	£7.95	£15.50	£29.95	£77.50	£139.95

All 31/2" Disks come complete with labels. All 51/4" Disks supplied with Write Protect Tabs, labels and envelopes and come with our No Quibble Money Back or Replacement Guarantee.

Main Media, 1 Weatherby Gardens, Charlton, Hants.

DISKETTE STORAGE BOXES

		Price Each
50 x 51/4"	Hinged Lid Lockable	£5.50
100 x 51/4"	Hinged Lid Lockable	£7.50
140 x 51/4"	Hinged Lid Lockable	£9.50
50 x 31/2"	Hinged Lid Lockable	£5.50
100 x 31/2"	Hinged Lid Lockable	£7.50

DISK BOXES WITH DISKS

50 x 51/4"	Hinged Lid Lockable with	25 DS/DD	48TPI	£11.95
50 x 51/4"	Hinged Lid Lockable with	25 DS/QD	96TPI	£12.75
100 x 51/4"	Hinged Lid Lockable with	50 DS/DD	48TPI	£20.95
100 x 51/4"	Hinged Lid Lockable with	50 DS/QD	96TPI	£22.50
140 x 51/4"	Hinged Lid Lockable with	100 DS/DD	48TPI	£35.95
140 x 51/4"	Hinged Lid Lockable with	100 DS/QD	96TPI	£38.95
50 x 31/2"	Hinged Lid Lockable with	20 DS/DD	135TPI	£21.50
100 x 31/2"	Hinged Lid Lockable with	50 DS/DD	135TPI	£44.95

All prices include VAT and Carriage. All Goods despatched within 24 hours subject to availability.

Cheques/P.O.'s to: MAIN MEDIA
FREEPOST
ANDOVER, HANTS.
SP10 4BR Tel: 0264 333830 (24 hrs)

Access

VISA

COMPUTER STATIONERY (U.K.)

Commercial House, Commercial Road,
South Shields, Tyne & Wear, NE33 1RW
Telephone: (091) 455 4300 Telex: 537390 Fax: (091) 455 1847

PROBABLY THE BEST PRICES IN THE U.K.! - ALL INCLUDE V.A.T. AND DELIVERY

DISKETTES	Nashua 5 1/4" DS/DD 48 TPI	£0.42 each
	Nashua 3 1/2" DS/DD 135TPI	£1.07 each
	Amsoft 3" CF2	£1.99 each
RIBBONS	Citizen 120D	£2.29
	Epson MX100/FX 100	£2.52
	Commodore NPS 501	£2.38
	Oki Microline 192/193	£3.32
	STAR LC24-10 (Original)	£5.68
	Amstrad DMP 2000/3000	£2.50
	Amstrad 8256/8512	£3.25
	STAR LC10 Nylon	£2.89
	(All other makes at up to 50% off R.R.P.)	
DISK STORAGE	5 1/4" 10 Capacity	£1.20
	5 1/4" 50 Capacity	£4.50
	3 1/2" 40 Capacity	£4.50

*** **STOP PRESS** ! ! Laser Cartridges Canon MK1/MKII £57.90 (Inclusive)

These are just samples of our fantastic offers. Please send £1.00 for our full product listing (refundable), or ring for a price.

Cheques/Postal Orders/Official Orders to:
Computer Stationery U.K.
Commercial House,
Commercial Road,
South Shields,
Tyne & Wear,
NE33 1RW

We Accept EXPRESS VOUCHERS

We Accept EXPRESS VOUCHERS

(All Orders under £10.00 - Please add £1.00 Postage & Packing)

TECH TIPS

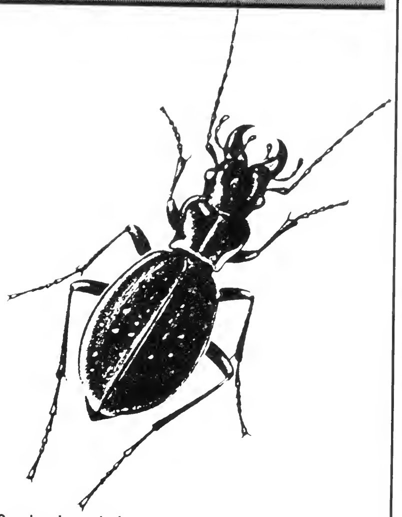
BUG OF THE WEEK

There are several bugs in *Hyperpaint*. Use the jack-knife and cut out the left edge of the screen where the tools are. Result: the program bombs out.

Load a *Neochrome* picture with no scrolling colours defined. Go to 'set cycling' and click on Test or View. It will either just black out the screen or will crash back to the desktop with mouse buttons not responding.

Try using *TinyView*, *SlideNeo* or *Deluxe Slideshow* to a view a picture created with *Hyperpaint* which has cycling colours, or possibly one that has static colours. The colours will cycle incorrectly. The cure is to load the picture into *Neochrome* and save it again.

Dave Henniker, Edinburgh



• Carabus irregularis

This forest-dwelling species occurs at moderately high and high altitudes in central Europe. Sometimes found at sea level hiding in 16-bit software, where higher atmospheric pressures cause it frequently forget what it's doing.

HELP!

Drive swapping

I am writing to you in the hope that you can assist me with a small problem I have when using Triangle 5.25" and Cumana 3.5" external drives connected to my Atari 520STFM.

At the moment, whenever I want to change drives, I have to switch the computer off and unplug one drive and plug the other in its place.

I am worried that after a period of time, the connectors in the external drive socket of my ST will wear and cause damage to the drive or – even worse – my ST.

Where can I get hold of a switch-box that I can plug both drives into and then connect to my ST so that I only have to push a switch to change drives? Also, can this be done without damaging the ST or the drives?

If a suitable switch-box is not available then how do I go about constructing one and what plugs, sockets and switches will I need, and roughly how much will it cost?

Michael Smith, Luton

• An unfortunate problem, which has an analogy with the ST's monitor trials and tribulations. I'm afraid there are no switch boxes suitable for your purpose Mike, but you could try building one yourself. Have a rummage through the Maplin catalogue (available from branches of W H Smiths for a pound or two) for the necessary switches and their prices.

Switching between two drives in this way should not harm your ST or the drives, but be warned that neither myself, nor anyone that I know of, has tried to do this.

TIP OF THE WEEK

Self-drive printing

Very often you don't need a printer driver at all. Perhaps you're only trying to print a documentation file without printing on the perforations, or to choose a particular style of text. The answer is quite simple. Look up the code for the required operation in the printer manual.

Write a short program to make the codes into a text file on disk or tape. Any time you want to program your printer, just get it to print the file you've created. It won't print anything, but it will be programmed to print the way you want it when you do send it some text.

For example:

```
file%=OPENOUT"ELITE.PRT"
PRINT£ file%,CHR$(27);"C";CHR$(66);:\66 lines per page
PRINT£ file%,CHR$(27);"N";CHR$(9);:\Don't print 9 of them
PRINT£ file%,CHR$(27);"1";CHR$(10);:\Set left margin to 10
PRINT£ file%,CHR$(27);"M";:\Elite mode
CLOSE£ file%
```

I see no reason why this won't work on any computer that can create a short text file on cassette or disk. On my ST, I double click on ELITE.PRT and click on the print option.

Dave Henniker, Edinburgh

TIP

ST/TV link

Using the composite video signal output by STFMs (from the monitor socket) it is possible to connect STFMs to the video and audio inputs found on the backs of many TVs. Also with the addition of more plugs in parallel with the audio line, sound can be output to your hi-fi (although the sound will be in mono).

Connect one phono plug to the composite and ground pins (2 and 13 respectively) of your ST's monitor socket, and another phono plug to the audio out and ground pins (1 and 13 respectively) these then plug into the TV's video and audio inputs.

When using the GEM desktop without a mouse, you may find that the Alternate and Cursor keys move the pointer too rapidly. For more accurate movement, hold down the Alternate and Shift keys while using the cursor keys. This will result in the cursor moving pixel by pixel around the desktop.

Faisal Patel, Batley, West Yorks

HELP!

Database choice

Could you please recommend a database suitable for listing articles and their dates in my collection of *National Geographic* magazines, possibly with cross-indexing.

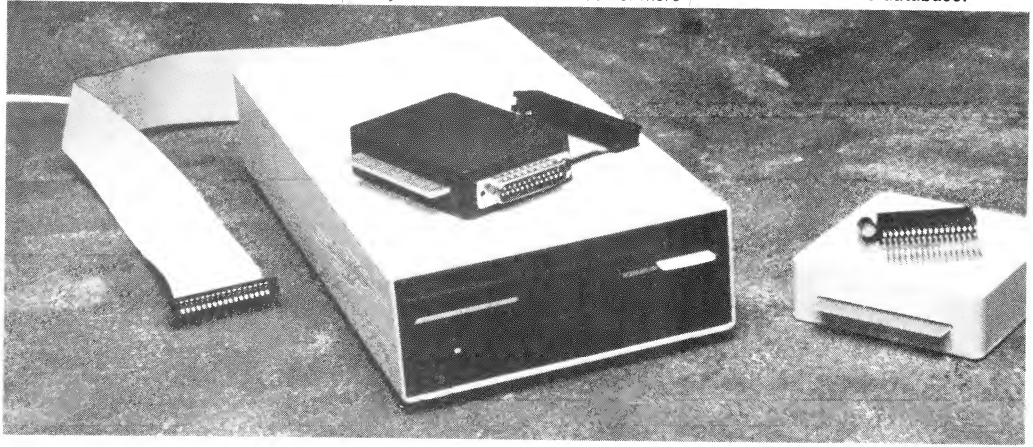
I estimate not less than 3,000 entries with about 12 fields. My machine is the Atari ST, and being a beginner, I would like idiot-proof instructions with the database.

Also, do you know of any realistic poker simulations on disk (not strip poker – I have a dicky ticker (!)).

Dave Lavington, Ealing, London

• *SuperBase Personal* is just the package for you. It has a user interface very similar to that of a video recorder i.e. icons to click on which take you forwards, backwards or pause your display etc. It is available from your local software shop.

Poker simulation without stimulation, huh? I can find NO commercial poker simulation software that doesn't include the electronic player getting naked – try a rummage through the public domain.



• Want to swap between two or more external disk drives without unplugging all the time? See Drive swapping

TIP

Faster scoring

If, after entering your name in a high score table, your ST or Amiga starts accessing the drive, it is probably trying to write the high score to disk.

It can rarely do this however, as the disk is usually write protected to stop a potential virus infecting the disk. So after every game you are forced to wait for the computer to access the disk for no reason.

The solution is to write-enable the disk, but make sure the machine is turned off for a few seconds before booting the game.

You may still have to wait, but at least it's for a reason.

Please could you tell me what sound chip the ST uses?

P Worth, Shoreham-by-Sea, West Sussex

• The ST uses the AY-3-8512 chip to generate sound.

HELP!

Serious Speccy

I am but a humble Spectrum +3 owner who does not want to play games (*Why not? you're missing out on a lot of fun – Tech Ed*). Do utilities, compilers, books etc. really exist for the +3?

Is there a book detailing Z80 machine code? Can I get an

Win a sub!

We want to hear your problems, but we also want helpful hints and tips. And reports of those bugs you've found, from the comical to the downright frustrating. You could scoop the weekly best-tip prize of a brilliant piece of software for your machine, or even a free 26-issue subscription!

And remember, there's no waiting around for monthly publication dates. The best tips, and solutions to your problems will be in print before you can say Alan Sugar. (Please don't send SAEs for replies, we can only answer enquiries in print).

So whether it's help offered or needed, write to: Tech Tips, New Computer Express, 4 Queen Street, Bath, Avon BA1 1EJ.

assembler? Is a comms package available? I would like to break free from the confines of Spectrum BASIC and use other languages via a compiler or even an emulator, but is this possible without spending lots of money on an Amiga or ST?

I write to *Express* because you are one of the few 'serious' (*Well, not that serious – Tech Ed*) magazines that actually deals with the Spectrum in some sense, without being patronising (*Of course, the Spectrum is a wonderful machine with fantastic capabilties – Tech Ed*).

Greg Ashman, Brierly Hill, West Mercia

- Serious stuff huh? The Spectrum has been around for a long time and is a very popular machine – consequently, there is a lot of software available and not all of it devoted to killing, collecting, simulation and stimulation.

Compilers? Try Hisoft on 0525 718181. It supplies a range of compilers covering the popular languages such as C and Pascal at a reasonable price. They will also be able to help with the acquisition of an assembler.

For a suitable comms package, you could do worse than buying the *Mini Office* package from Database (0625 878888) which includes a comms program – amongst others.

Sybex publish a book entitled *Z80 Machine Code* written (I think) by Rodney Zaks. It can be contacted on 0279 26721.

• Crashed programs on your CPC? See CPC read errors

TIP

CPC read errors

Here's a tip for Amstrad CPC users which may help with loading back BASIC programs from tape where there is a read error on one of the blocks. Unfortunately, if the read error is in the first block then nothing can be done.

First, determine which block the read error is in. Then write a program consisting of REM statements like this:

```
10 REM *******************
20 REM *******************
30 REM *******************
etc.
```

For example, if the read error is in block 4, then you must make a program with REMs so that the computer will save it in 4 blocks. No more, nor less. You must save it with the same filename as the program which has a read error. Save it to a seperate tape, then rewind this tape until it is directly in front of block 4.

Now begin to load the original program until the end of block 3. Put the tape with the REMs program in the machine and press play. Block 4 should go in OK.

Type LIST and press return or enter. You will find that part of the old program (the one with the read errors) will be there. After that, there will be REMs.

How much of the original program is there will depend on which block the read error was in. You can now delete the REM statements, and re-type the missing parts of the program.

At the end of the listing there will be a large number – almost like a large line number – with a few strange characters after it. Do not attempt to delete this line as its deletion will crash the computer. Also, reset the machine before MERGEing, loading or running another program.

Finally, at the end of the program, you must insert an END or STOP statement.

P Harrison, Leicester

HI TECH SUPPLIES
0481 714183
DISCS & RIBBONS

5.25" DS DD 96tpi

25	50	100	250	500	1000
£7.50	£14.50	£28.00	£65.00	£115.00	£220.00

3.5" DS 135tpi

25	50	100	250	500	1000
£21.50	£42.50	£83.00	£150.00	£400.00	£790.00

5.25" DS DD 96tpi
WITH ENVELOPES PRINTED WITH YOUR LOGO etc.

500	1000	2500	5000
23p	22.5p	21p	20p

RIBBONS
TOO MANY TO LIST, FOR EXAMPLE

AMSTRAD 8256	£3.95
BROTHER HR 15, 25, 35	£3.10
EPSON LX 800	£2.65

HI TECH SUPPLIES
3 ST JAMES STREET
ST PETER PORT
GUERNSEY
CHANNEL ISLANDS

WE ACCEPT EXPRESS VOUCHERS

All prices include VAT & Postage

All Public Domain Only £1

What do you want from a professional Public Domain Bureau? We believe have the answer. Send for an Atari ST catalogue now. You've nothng to loose!

- Same day dispatch - Next day delivery!
- Free Catalogue mail-out / Special Offers.
- Credit card ordering / Instant processing.
- No subscription fees or hidden extras.
- Carefully selected top quality software.

*As one of the longest established in Atari ST Public Domain software, with probably the largest library, you can't get the same service anywhere else! **PHONE** or send a large SAE for your **FREE catalogue.***

STAR U.K. LTD Dept NCE.50 Bridge Street, Aberdeen,
Scotland. AB1 2JN.. Tel: (0224) 593024

COMPUTER REPAIRS
Fixed Super Low Prices!
Inclusive of parts, labour and VAT
FIRST AID FOR TECHNOLOGY
1 WEEK TURNROUND
* AMSTRAD / SINCLAIR AUTHORISED *

SPECTRUM 48K	£14 + Free Game	C64	£22 + Free Game
SPECTRUM 128	£18	VIC 20, C+4	£22
SPECTRUM + 2	£27	1541 DISK DRIVE	£36
C128	£29	C2N TDECK	£19
C16	£18		

Please enclose payment with item - 3 month warranty on repair
Please enclose advert with repair

W.T.S. ELECTRONICS LTD
(NCE 300389)
Studio Master House, Chaulend Lane, Luton, Beds. LU4 8EZ
Tel: 0582 491949
(4 lines)

WE ACCEPT EXPRESS VOUCHERS

Standard terms of business apply

Nigel Mansell's Grand Prix ST & Amiga £4.99

Vixen ST & Amiga £4.99

We Accept EXPRESS VOUCHERS

MAIL ORDER

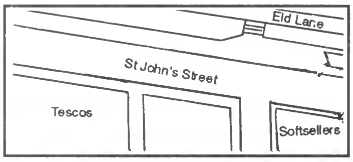
SOFTSELLERS

MAIL ORDER

We Accept EXPRESS VOUCHERS

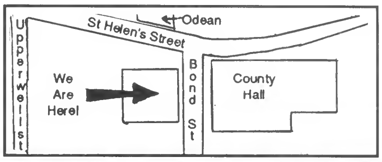
12 SANDPIPER CLOSE, LONGRIDGE PARK, COLCHESTER, ESSEX. CO4 3GE

36a Osborne St,
Colchester,
Essex.
(RETAIL)



Access

VISA



6 Bond St,
Ipswich,
Suffolk.
(RETAIL)

24hr MAIL ORDER PURCHASE LINE (0206) 869668 (0206) 863193

	ST	AMIGA
Afterburner	13.99	16.99
Airborne Ranger	15.99	15.99
A Question of Sport	12.99	15.99
Amiga Gold Hits	--.--	16.99
Alien Syndrome	12.99	15.99
Archipelagos	15.99	15.99
Armalyte	12.99	12.99
Baal	12.99	12.99
Batman	12.99	15.99
BardsTale I or II	16.99	16.99
B.A.T.	16.99	16.99
Balance of Power 1990	15.99	15.99
Ballistiks	12.99	12.99
Barbarian ii	12.99	12.99
Battlechess	16.99	16.99
Better Dead Than Alien	12.99	12.99
Bionic Commando	13.99	16.99
Blasteroids	12.99	15.99
Black Lamp	12.99	12.99
Blood Money	12.99	12.99
Bombuzal	15.99	15.99
Bomb Jack	12.99	15.99
Borrodino	24.99	--.--
Butcher Hill	16.99	16.99
Buggy Boy	12.99	15.99
Bubble Bobble	12.99	12.99
Carrier Command	15.99	15.99
Captain Blood	15.99	15.99
Chrono Quest	19.99	19.99
Combat School	12.99	15.99
Corruption	15.99	15.99
Cosmic Pirates	12.99	12.99
Custodian	12.99	12.99
Crazy Cars II	15.99	15.99
Cybernoid II	12.99	12.99
Daley Thompson's O.C.	12.99	15.99
Deluxe Music	--.--	49.99
Deluxe Paint II	--.--	49.99
Deluxe Paint III	--.--	49.99
Deluxe Video	--.--	49.99
Deluxe Photolab	--.--	49.99
Degas Elite	16.99	--.--
Denaris	--.--	13.99
Dragonscape	12.99	12.99
Dragons Lair	--.--	29.99
Dragon Ninja	12.99	15.99
Double Dragon	12.99	12.99
Dungeon Master	15.99	15.99
Driller	15.99	15.99
Elite	15.99	15.99
Eliminator	13.99	13.99
Falcon	15.99	19.99
F16 Combat Pilot	15.99	15.99
Fernandez Must Die	15.99	15.99
Fed. of Free Traders	19.99	19.99
Ferrari Formula One	--.--	16.99
Fish	15.99	15.99
Fire and Forget	15.99	15.99
Fusion	16.99	16.99
Football Manager II	12.99	12.99
Football Director II	12.99	12.99
Gauntlet II	13.99	16.99
Garfield	12.99	15.99
Guerilla War	12.99	15.99
Gunship	15.99	--.--
Goldregon's Domain	12.99	12.99
Goldrunner I or II	12.99	12.99
Gryzor	12.99	15.99
Ghosts & Goblins	12.99	15.99
Heroes of the Lance	16.99	16.99
Hostages	15.99	15.99
Interceptor	--.--	16.99
International Karate +	13.99	16.99
International Soccer	12.99	12.99
Incredible Shrinking Sphere	13.99	16.99
Iron Lord	16.99	16.99
Instant Music	16.99	16.99
Jet	29.99	29.99
Joan of Arc	13.99	16.99
Kristal	19.99	19.99
Leaderboard Birdie	16.99	16.99
Legend of the Sword	15.99	15.99
L.E.D. Storm	13.99	13.99
Lombard R.A.C. Rally	15.99	15.99

HARDWARE

ALL OUR HARDWARE INCLUDES VAT AND FREE NEXT DAY DELIVERY ON EARLY ORDERS. UK MAINLAND ONLY.

AMIGA 500
£369.95

AMIGA 500
Dragon's Lair pack with A501 fitted and Dragon's Lair Software
£499.95

AMIGA 500 + 1084S
Colour Monitor Pack **£599.95**

A501 EXPANSION
With Dragon's Lair Software **£159.95**

A501 EXPANSION
Standard **£139.95**

1084S
Colour Monitor **£249.95**

EXTERNAL DRIVE
Cumana 1 meg **£99.95**

CITIZEN 120D PRINTER
£149.95

ATARI 520STFM
1 meg Internal Drive **£269.95**

ATARI 520STFM SUPERPACK
21 Games and Business Organiser
£349.95

ATARI 1040STFM
With Modulator **£399.95**

ATARI 1040STFM
Business pack with database, spreadsheet and wordprocessor
£449.95

ATARI 1040STFM SUPERPACK
21 Games and Joystick **£449.95**

ATARI SC1224
Colour Monitor **£299.95**

ATARI SM124
Monochrome Monitor **£99.95**

CITIZEN 120D PRINTER
£149.95

EXTERNAL DRIVE
Cumana 1 meg **£109.95**

10 3 1/2" Blank Discs	£9.95	Konix Navigator Joystick	£11.95
Joystick Extendors	£4.95	Pro 5000 Joystick	£11.95
4 Player Adaptors	£4.95	Pro 5000 Clear	£12.95
Mouse Mat	£4.95	Pro 5000 Extra	£12.95
Cheetah 125 Joystick	£6.95	Disc Storage Box 40	£7.95
QS Turbo Joystick	£11.95	Disc Storage Box 80	£9.95

	ST	AMIGA
Leathernecks	12.99	12.99
Lancelot	12.99	12.99
Lords of the Rising Sun	--.--	19.99
Manhattan Dealers	12.99	15.99
Menace	12.99	12.99
Microprose Soccer	15.99	15.99
Millenium 2.2	15.99	15.99
1943	13.99	16.99
Netherworld	13.99	13.99
Nightraider	13.99	13.99
Nebulus	13.99	13.99
Operation Neptune	15.99	15.99
Operation Wolf	12.99	15.99
Outrun	13.99	13.99
Outrun Europa	10.99	10.99
Overlander	12.99	15.99
Paperboy	12.99	15.99
Pacmania	12.99	12.99
Pacland	12.99	12.99
Peter Beardsley	12.99	12.99
Phantom Fighter	--.--	13.99
Pioneer Plague	--.--	15.99
Powerplay	12.99	12.99
Platoon	12.99	15.99
Populous	16.99	16.99
Powerdrome	16.99	16.99
Pools of Radiance	16.99	16.99
Purple Saturn Day	15.99	15.99
Puffy's Saga	16.99	16.99
Premier Collection	19.99	19.99
Precious Metal	15.99	15.99
Prison	12.99	12.99
Quadralien	12.99	12.99
Red Heat	12.99	15.99
Real Ghost Busters	13.99	13.99
Realms of the Trolls	13.99	16.99
Renegade	12.99	15.99
Roadblasters	13.99	13.99
Robocop	12.99	15.99
R-Type	13.99	16.99
Rocket Ranger	15.99	19.99
Return of the Jedi	13.99	13.99
Rambo III	12.99	15.99
Running Man	15.99	15.99
Run the Gauntlet	12.99	15.99
Scrabble	12.99	12.99
Shadowgate	15.99	15.99
Shoot 'em Up Construction	15.99	15.99
Space Harrier I or II	12.99	15.99
Starglider II	15.99	15.99
Skateball	16.99	16.99
Skychase	12.99	12.99
ST Five Star	15.99	--.--
Star Ray	12.99	15.99
Stargoose	12.99	12.99
STOS	19.99	--.--
Streetfighter	13.99	16.99
Speedball	15.99	15.99
S.D.I.	13.99	16.99
Skate or Die	16.99	16.99
Super Hang-On	13.99	16.99
Sword of Sodan	--.--	19.99
Techno Cop	16.99	16.99
Tiger Road	13.99	13.99
Test Drive	16.99	16.99
Tracksuit Manager	12.99	12.99
Trivial Pursuits	13.99	13.99
Triad	19.99	19.99
Thunderblade	13.99	16.99
Thundercats	12.99	15.99
Time & Majik	12.99	12.99
Times of Lore	15.99	15.99
Turbo Cup	12.99	12.99
TV Sports Football	--.--	19.99
Ultima V	15.99	15.99
U.M.S.	15.99	15.99
Victory Road	12.99	15.99
Vindicators	13.99	13.99
Virus	12.99	12.99
Voyager	12.99	15.99
War in Middle Earth	15.99	15.99
Where Time Stood Still	12.99	15.99
WEC Le Mans	12.99	15.99
Wizzball	12.99	15.99
Xenon	12.99	12.99
Zany Golf	16.99	16.99
Zak McKraken	16.99	16.99

TITLE	COMP	PRICE
	TOTAL COST £:	

Name: --

Address --

Tel No: --

WORKBENCH 1.3 £14.95

NCE APRIL

A501 Expansion Dragon's Lair £159.95

Partners M. James and L. K. Mitchell

Cheques & Postal Orders payable to SOFTSELLERS. Post & Packing Free in U.K. Overseas £1.50 per item. Mail Order Only. Shop Prices will vary but personal callers can claim approximately 10% discount off R.R.P. on most listed items on production of this advert. Subject to availability and price change without notice. Not all titles released at time of going to press.

Armageddon Man ST & Amiga £4.99

Hellfire Attack ST & Amiga £4.99

EXPRESS Classifieds

BBC ROMS Diskdoc Printmaster Wordwise exmon toolkit graphics with manuals £10 each. Elite, Sentinel disks £5 each 031 447 8226

ATARI 520STFM + external D/S disk drive + 35 games, £300 ono Tel 01 541 0741

CBM64, DATACASSETTE, joystick, musicmaker, 111 games, Def/Crown, Platoon, Predator, Revs, Matchday2, Leaderboard (5 diff), Driller, Sale £90, Tel: 0272 575366

WANTED. Express reviewer wants lead to connect ST to composite video monitor. 0225 446034

SPECTRUM +3 internal disk drive, Multiface 3, recorder, joysticks + interface, loads of software, disks + cassettes. Originals. Worth £1,200 sell £350 ono Phone 0442 58315

WANTED ST demos for sale on a PD Network send SAE and list to 13 Poplar Road, Ramsgate, Kent 584503

ELECTRON C/W power pack cassette player, manuals, magazines and a wide selection of software, phone 031 337 1163

AMIGA 'DRAGONS LAIR'. Unwanted present. Boxed and complete as new. £30 – Bournemouth (0202) 577197

PENPAL (TEENAGE) BBCB & DFS swap tips etc interested in writing budget games 21 Dirdene Gardens, Epsom, Surrey KT17 4AZ Epsom 21715

COMMODORE VIC 20 stack storeboard, VIC20 Paddles and Omega Race cartridge, the lot £35. Postage paid. 0704-892088 ask for Mike

ST SOFTWARE Data Manager Prof. £35 Beyond Zork, Pawn, Starglider II, £8 each. All as new phone Steve, London 01 840 4540

FOR SALE C64 software full priced originals now £1.50 each. Melksham 704740

ATARI ST contacts wanted, anyone good at art especially wanted. Send SAE for guaranteed reply contact Norm 5 Campion House, Mayville Estate, Matthias Road, London N16 8LN

WANTED ENHANCEMENT disk for action replay MKV and centronics interface for CBM 64 also LC10/Citizen printer. 0703 4411345

ALTER-EGO (male), Laser Genius, Little Computer People, Electrosound, all Commodore64 disks, £10 each. Expert cartridge (disk) £15. Tel 091-5361250

WANTED: LC10-C printer, A1010 drive, A501 expansion. Will trade a Philips portable CD-player or Tamiya Thundershot 091-2533419 5-6pm Tuesdays. Michael

BRAND NEW ST games for sale SAE Mick Ibbotson, 262 Barnsley Road, Sheffield S4 7AG Also contacts wanted quick reply QRTQSG

VIC20, 16K, super expander, 2CN cassette, 1520 printer, all boxed, loads tapes, cartridges, books, mags. Will split. £80.00. Rochdale 524732

BBCB DFS SS40T drive, Viglen Console, ATPL ROM board. Inter word, Database, +ROMs much disk software. £350 phone 0525 717131

WANTED STUDENT requires disk drive for Spectrum 128K computer cheap (under £50 if possible) David, 159 Ivanhoe Drive, Kirkintilloch, Glasgow G66 2AS

AMSTRAD CPC464, colour monitor mouse, lightpen, joystick £450 of original software. Includes art, wordprocessor, and programming packages £240 ono Tel: (091) 4166585

AMSTRAD PCW8256 plus Hisoft Pascal, disks, and manuals for sale. £220 ono phone 01 561 4653. Excellent condition.

AMIGA COLOUR printer Okimate 20. Used once £95. Minster (Sheppey) 0795 875454

ACORN ELECTRON with some games and magazines including tape deck also some books. Anytime £50 ono Sheffield 0742 456437

ORGINAL SPECTRUM tape games for sale mostly adventure also some books manuals on the spectrum. Ring for details 0460 61191

FOR SALE spectrum 48K+ data recorder, quickshot joystick, Kempston, Interface, 30 games, bargain only £59 Chelmsford 320203

200 mostly Commodore mags dating from 1983 offers around £45. Buyer collects Tel 03526 (Flint) 61243 after 6pm (Chris)

ATARI 520STM, disk drive and mono monitor, books, games and business software – £200 Hume, Cramlington (0670) 731924

LOADSA GAMES for Atari XL/XE. Disk and tape – all originals – Fright Night, Gauntlet Feud etc over twenty titles. £30 ono Tel 04024 49582

AMIGA OWNERS wanted to swap PD software. NO PIRATES. Contact Lars Janssen, Flat 66, Fairways, Dybe Road, Brighton, E Sussex BN1 5AD

ATARI 520STFM with Cumana 1 meg external drive. £300 no offers, some software. Tel 091 4568473 Paul after 6pm please.

HELP! NEED cheap copy of Tasword 128. Write 15 Cromarty Drive, Milton Invergordon, Ross-shire or phone 086-284-2442

FOR SALE Atari 520ST; two single sides D/D; Hi-Res monitor; joystick; software. To highest bid Tel: (0232) 731320 after 6.30pm

PRISM MODEM with cage comms and RS232 interface for CPC £75. Disks Plan It £8, DRGRAPH £18 Tel. 0742 363026

MAKE MONEY with your Micro! Large SAE for details. Alan Moore, NCE, 6 Alma Terrace, Selby, North Yorkshire, YO8 0JY 0757 705018

FOTOCALL PROFESSIONAL photographic filing system (full) for PCWs Pro-Am software 28, Chestnut Avenue Maldon, Essex CM9 7BA for full details 56957

CBM 64 SOUND sampler with disk software £18 or accept 20 disks of Amiga PD/S. J S Smith 45 Maplecroft Crescent, Sheffield, S9 1DN 438542

CPC6128 COLOUR datacorder joystick mirage imager W/Processor educational software 50 games £300 DMP2000 printer £100 telephone 021-744-2990

A500, 1084s monitor, 2nd 3 1/2 d/drive, 120D printer, software including: The Works, DPaint 11, + games, manuals, leads. – £800 CPC464 + £130 (01) 648 8317

NEVER USED Amstrad MP2 modulator runs CPC 464 or CPC664 through any television £20 plus £2 post and packing Mr L Harwood, 12 Cringlethwaite, Egremont, Cumbria, CA22 2RN

KEYBORED MAGAZINE for all micros (even PC-Engine) costs 70p from 187 Perrysfield Road, Cheshunt, Herts, EN8 0TL Cheques/POs to Jonathan Morris 0992 465366

C64C, TAPE, joystick, mouse. 60 games/utilities. 18 months old. Immaculate condition. Worth £325, will sell £190 Tel (0270) 663457

WANTED: PACLAND or Dungeon Master. Will swap either for Daley Thompsons Oc+ £3 or sell DTOC for £7 Tel (0743) 54095

ATARI 520 1040 hard disk 38 meg. Built from computer magazine project. Any test. Sheffield area. Tele Rotherham 371694 £300

FOR SALE 640K QL with JS ROM, loads of software, all vgc, £350. Tel: 0225 331275

TANDATA auto-answer auto-dial modem, V21 & V23, suit any micro with RS232. £80 ono. Jerry, 0225 446034

XEROX 4020 ink-jet printer with cut-sheet feeder, starter pack. Cost £1793.94, sell for £1000 ono 061-223-7531 after 7pm

WANTED: VIDEO digitiser. Also a light pen for use with C64. Contact Adrian, 62 Seven Acres, Parton, Whitehaven, Cumbria, CA28 6RF

STAR LC10C colour printer for Commodore C64 or C128 8 months old. £175 phone 0273 555899

ST SOFTWARE: Lattice C £45, Assempro £20, Cyberstudio+ Control £80, and games. Also for sale Casio CZ230S keyboard. Tel: Epson 20128

MIDI SYNTHESISER, for use with ST. Korg DS8, great sounds, unused, cost £999. Sensible offer accepted. Phone Neil: 044282 4424

SINCLAIR QL with lots of software, hardware, books and monitor, requires a little work, £200. 08895 77619

EXAM ORGANISER, database and Amstrad CPC games for sale, originals. Details from Andrew Wong, 10 Gerllan, Tywyn, Gwynedd, LL36 9DE

IBM PC owners wanted to swap tips etc. 100% reply. Ed Smith, Ballinagee Farm House, Enniskerry, Co Wicklow, Ireland

WANTED SPECTRUM +3 and multiface. Phone 0922 408272

SPECTRUM 48K. Excellent professional keyboard, wafadrive, RS232, centronics interfaces. Cassette deck. Some games £85 teak effect desk £15 (0925) 725063

Classified information

Want to sell your hardware or original software?

Upgraded recently and no longer need some products?

Want to publicise your user group?

Need to promote your bulletin board?

Then *New Computer Express* classified ads section is simply the best place.

The charge is £5 per entry, up to a maximum of 20 words. Payment can be by postal order or cheques made payable to Future Publishing Ltd.

Send off the form today and your ad will appear in the next available issue of *New Computer Express.*

Express 23 Classifieds form

Name ....

Address ....

....

Tel..

One space equals one word. All adverts must be no longer than 20 words.

Please note:

1 All entries should be accompanied by £5 payment

2 *New Computer Express* will not accept responsibility for any minor typographical errors which do not materially affect the meaning of the adverts.

3 We cannot vouch for the quality of goods and/or services advertised in this section. All ads are accepted in good faith.

4 We reserve the right to amend or even refuse ads at our discretion.

5 No pirated software may be sold through these columns. Any readers being offered non-originals should contact us.

6 We cannot guarantee that adverts will appear in a specific issue of *New Computer Express.*

7 The following declaration must be signed:

I have read and understood the terms for the inclusion of my ad.

Signed ....

● Plenty of ST releases hit our screens this week, from *Kicking Off* with Anco to *Ghostbusting* with Activision.

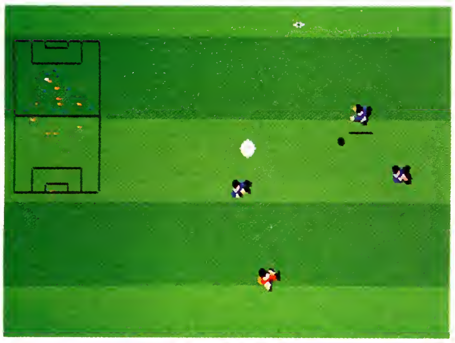
The PC got an extended look-in though, thanks to the terrific *Abrams Battle Tank* – tanks a lot, EA.

Shifting between mediocre and merely average, came *Renegade III*, *Steve Davis Snooker* and *Police Quest 2*.

KICK OFF

ANCO

ST £19.95dk
Out soon on Amiga, PC, C64



• The graphics don't look much, but it plays fast and well

The ground is thick with footie games for the ST (most of which are appalling). Now comes an overhead view action title from Anco, a software house not generally known for sweeping punters off their feet.

● GAMEPLAY

At your disposal is an eleven-player team competing to beat the best in the world via a league table. There's not much strategy to speak of, bar a somewhat token choice of team formation.

However, the game quickly kicks off at an amphetamine pace with all the sliding tackles, diving headers, filthy fouls and scorching shots you could want on a full-size multi-directional scrolling pitch. It's also got a scanner showing all the players on the field.

What is remarkable about this offering is its absolutely stunning speed. Anco has ditched any poncy attempts to look good on the ST in favour of *Speedball*-type action. It works.

Kick Off possesses that rarest of 16-bit footie qualities. It's not as easy as kicking around with a bunch of five year olds and not as tough as an afternoon in the company of Vinny Jones etc.

● GRAPHICS AND SOUND

Opening visuals are nothing to shout about, and the game contains a barrage of flicker which would be unforgivable in a title lacking gameplay.

The good ol' bouncing ball sound is in evidence, as are crowd noises. Anco has not concentrated too hard here, but this isn't a game for software snobbery.

● OTHER VERSIONS

Amiga and C64 versions will be on the streets by mid May, with a PC version to follow later in the summer.

● EXPRESS VERDICT

Even the most diehard ST-owning footie fanatics have been left with a poor choice over the past couple of years. For all the fancy licence tie ups and empty boasting, nothing has yet impressed. Speed not graphics make this offering worth a look. Playable, enjoyable and, for once, worth forking out for.

✪ ✪ ✪ ✪

John McCleary

RENEGADE III

IMAGINE/OCEAN

Spectrum £8.99cs
Also on C64, CPC, ST, Amiga

Feel like kicking some ass through the ages of time? Well *Renegade III – The Final Chapter* allows you to do just that...

● GAMEPLAY

Again taking the role of the hero, Renegade, your mission is to rescue your girlie from the forces of the future. On the way, you'll encounter various forms of scum including medieval knights, ancient Egyptian mummies and prehistoric dinosaurs. However, these problems shouldn't be unsurmountable, considering your prowess at the art of the punch, kick and occasional butt.

● GRAPHICS AND SOUND

Typical martial arts monochrome visuals are slightly uplifted by the strange backdrops and characters – although none of these are that spectacular. Visuals are matched by standard thump and bash sound FX throughout.

● OTHER VERSIONS

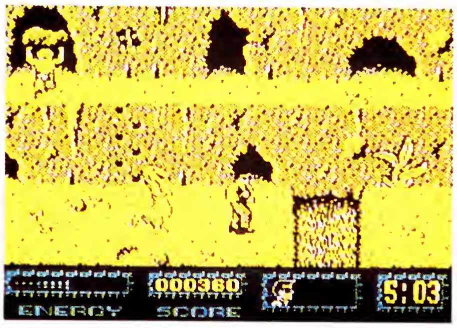
The C64 version replaces the Spectrum's mono visuals with a more colourful, albeit blocky, display. We haven't seen any of the rest yet.

● EXPRESS VERDICT

Renegade III plays a familiar game of kick-'em-up proceedings with a new scenario but unoriginal gameplay. Purchase will provide neither surprise nor sorrow, just a satisfactory sequel.

✪ ✪ ✪

Rik Haynes



• Prehistoric gameplay to match prehistoric background

ABRAMS BATTLE TANK

ELECTRONIC ARTS

PC £29.99dk
No details on other versions at present

If the thought of motoring down the Autobahn in your new Audi Quattro has you reaching for the gear stick, then what about the chance to head down the Nuremberg Highway in your turbonuttertankbastard – vorsprung durch technik or what?

● GAMEPLAY

In control of the US Army's main battle tank, the M1A1 Abrams, you have a full complement of armaments, an extensive selection of adversaries, and eight different scenarios to contend with – and not one "go-faster stripe" in sight.

Your command of the Abrams is complete, even down to choosing your own mix of ammo at the resupply depot, as you switch from gunner to driver to commander whilst trundling along at a steady 70km/h and looking out for a possible threat behind every hill.

Of course, the commies have to come into it somewhere, and indeed they do, in the guise of the numerically superior Soviet forces just itching for your tank tracks. Up against the likes of the Soviet BMP-2 Infantry Fighting Vehicle, Mi-24 Hind Assault Helicopter and the hot of the mass-production line FST-1 Main Battle Tank, clever use of your HEAT, Sabot and AX rounds will be not so much advantageous as absolutely essential.

REALISTIC

● GRAPHICS AND SOUND

The real-time solid 3D and vector representations are sparse but convincing, and are enhanced by the various tank viewpoints. On-board controls are well designed and easily identifiable, even in the height of the fighting. Sound-effects leave a lot to be desired – fortunately these can be switched off.

● OTHER VERSIONS

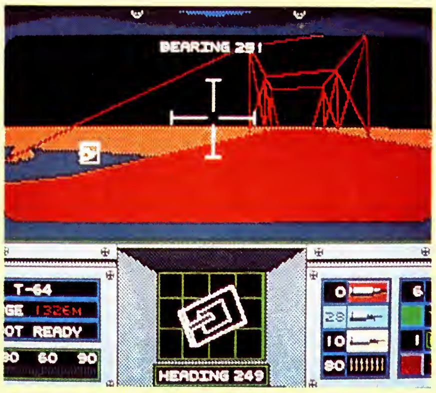
We've no details on any other version at present.

● EXPRESS VERDICT

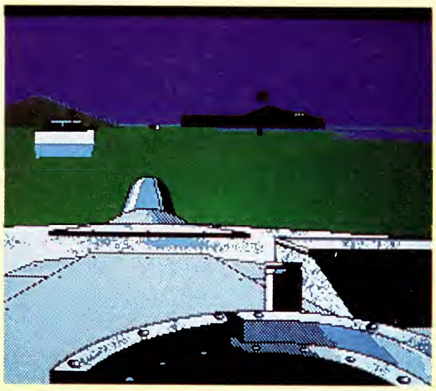
A little unusual in its subject matter, *Abrams* makes a welcome change from the spate of F-16 simulations currently doing the rounds on the PC sim market. The only major criticism we have with the game is the slow update rate of user response, but the remarkably realistic PC display more than makes up for this inadequacy.

✪ ✪ ✪ ✪

Rik Haynes



• Switched on to thermal imaging while TADing around



• Directed by Francis Ford Cupola?

REAL GHOSTBUSTERS

ACTIVISION

ST £19.99dk
Also on Spectrum, C64, CPC, Amiga

Have you endured the awful *Ghost Train* Saturday morning TV show, just to watch the excellent *Real Ghostbusters* cartoon series? Well things could be looking up, 'cause Activision's just released the computer game...

● GAMEPLAY

Busting makes you feel good as you bust your way through this one or simultaneous two-player, eight-way scrolling shoot-'em-up, blasting and sucking in all sorts of ghouls, ghosties and things that go bump in the night.

Using a combination of gun and proton beam to take out the opposition, you can gain more help from collectible objects yielding such desirables as extra beam/shot energy/power, shields or Slimer (a friendly little ghostie who gives you all-round protection).

Once you've passed the end-of-level guardian, you're treated to a truly unimpressive off-loading ghostie sequence. Then it's back to more of the same.

● GRAPHICS AND SOUND

The definition of the sprites is amateurish, and things really become laughable when attempts at animation are made. The backdrops are an improvement, though not to a significant degree.

At every possible moment you're treated to an inane version of Ray Parker, Jnr's infamous *Ghostbusters* tune, which is only uplifted by comparison to the awful white-noise sound spot-effects employed.

SLIMEY!

● OTHER VERSIONS

The most disappointing version we've seen is for the CPC, due to its unacceptable, far too dark, mono display. The Spectrum fares a little better visually, but suffers from relative slow speed. Amiga *Real Ghostbusters* is visually identical to its ST partner, although it's let down by horrible sampled sound-effects for your gun/proton beam and a slower speed of operation – ST porting at its worse. We haven't seen the C64 version yet.

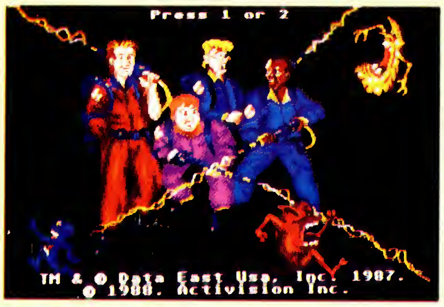
● EXPRESS VERDICT

The Real Ghostbusters is an average affair, with simple audio-visuals but a rather surprisingly high level of difficulty complemented perfectly by frustrating collision detection and annoying waiting times between each game as the game cycles through the same, boring startup sequence.

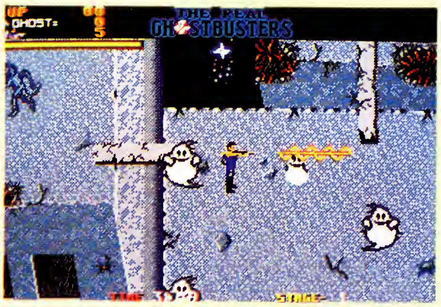
Who is *Real Ghostbusters* for anyway? The graphics aren't big or cute enough for small kids, and there isn't enough gameplay here to attract the older gamester. In fact, 8-bit owners would be better served by sticking to the original *Ghostbusters* game, which is far superior and now only costs two quid. As for 16-bitters, they'd content themselves more by watching the superb cartoon series on TV.

✪ ✪

Rik Haynes



• Real Ghostbusters: A conversion of the Data East coin-op



• Sucking in a ghostie with yer proton beam

POLICE QUEST 2

SIERRA ON-LINE

ST £19.99dk
Also on PC
Out soon on Amiga

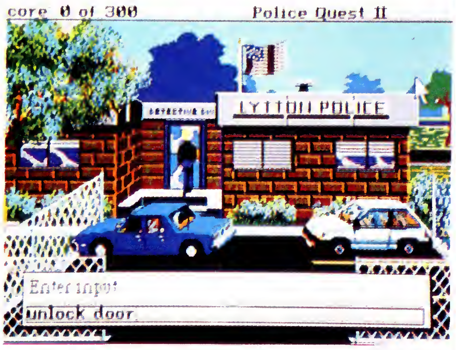
Animated adventures by numbers? Ken and Roberta (Sierra on-line) Williams provide another (yawn) colourful world for you to be abused in.

● GAMEPLAY

You adopt the role of detective Sonny Bonds of the Lytton police department homocide squad, out to arrest the notorious cop-killer Jessie 'the death angel' Bains. He's recently escaped from prison after killing a guard and has your 'number'.

After progressing through lots of target practice, you are unleashed onto an unsuspecting Lytton public, killing and maiming, spilling blood and stitching with lead.

A map of Lytton is provided, as well as a – confidential – homocide officer's guide detailing personal conduct, initiating investigative procedures, gathering evidence and informing coroners – with heavy emphasis on the coroner informing.



Enter input
unlock door

• A genuine *beat*-'em-up...? (groan)

● GRAPHICS AND SOUND

The graphics are very good. High resolution, lots of colour and best of all *interactive*.

Sound is excellent. A wide variety of tunes and effects giving atmosphere and extending the depth of play. There's even support for a Roland MT-32 and Casio CZ-101 via the MIDI port (if you're playing the ST version).

● OTHER VERSIONS

We haven't seen the PC version yet, while an Amiga version is also on the horizon.

● EXPRESS VERDICT

Good graphics and sound, but you'll feel as if you've played it before. Still, if you're an aficionado of interactive (bloodthirsty) graphical adventure games, then this is for you – do it to them before they do it to you...!

✪ ✪ ✪

Officer Mellish

STEVE DAVIS WORLD SNOOKER

CDS

ST £19.99dk
Also on Amiga

After the huge success of its predecessor on the 8-bits, *World Snooker* comes complete with pool and billiards thrown in too. Will the world champion chalk up another success?

● GAMEPLAY

After turning off the music digitised from the BBC TV series, you're presented with a six skill level choice of two types of snooker, pool and billiards.

Starting the action simply consists of lining up the cue, adjusting the shot strength, positioning spin and clicking to shoot.

This is tough going at first, but, fortunately, there's a practice mode to get you in the right frame of mind (ho ho!) and a trick shot mode when you feel that you can play it with your eyes closed. And there's also take-back and replay option for all those important shots you miss.

● GRAPHICS AND SOUND

The 2D overhead graphics move smoothly enough, and the balls make a pleasant 'thud' as they drop into the pockets, but there's too much of a sense of detachment. Here, we're firm believers in sims that put you in the driving seat rather than ones that have you hanging from the lights above the table.

● OTHER VERSIONS

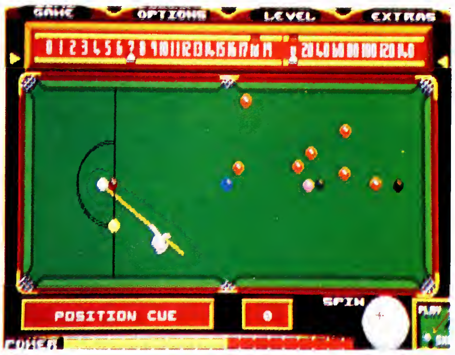
The Amiga outing benefits from stereo sound, but otherwise there's no real difference. CDS reckon there's too much code here for it ever to surface on the 8-bits.

● EXPRESS VERDICT

Although it's nice to see a snooker sim that offers you several types of game, there's no denying *World Snooker* lacks the involvement of *3D Pool*. Perhaps CDS could have improved the graphics at the expense of choice of gameplay. Either way, yer pays yer money...

✪ ✪ ✪

Andy Storer



• Seven balls left, and you're well and truly, er, snookered

520ST-FM SUPER PACK

ATARI
520ST
ATARI 520 STFM
WITH OVER £450 WORTH OF SOFTWARE
SUPER PACK

The Atari Super Pack is ideal for you if you want to get off to a flying start with the best in entertainment software. The Pack includes a 520ST-FM with ½Mb RAM, a built-in 1Mb disk drive, over £450 of top games and a joystick. If you buy the Super Pack at Silica Shop, we will add our own ST Starter Kit (worth over £200), Free Of Charge. Return the coupon for details.

£399

INCLUDING VAT

1Mb DISK DRIVE
£450 OF SOFTWARE

ARCADE GAMES		
Arkanoid II	Imagine	**£19.95**
Beyond The Ice Palace	Elite	**£19.95**
Black Lamp	Firebird	**£19.95**
Buggy Boy	Elite	**£19.95**
Chopper X	Mastertronic	**£9.99**
Ikari Warriors	Elite	**£14.95**
Marble Madness	Electronic Arts	**£24.95**
Quadralien	Logotron	**£19.95**
Ranarama	Hewson Consultants	**£19.95**
Return To Genesis	Firebird	**£19.95**
Roadwars	Melbourne House	**£19.95**
Starquake	Mandarin	**£19.95**
Test Drive	Electronic Arts	**£24.95**
Thrust	Firebird	**£9.95**
Thundercats	Elite	**£19.95**
Wizball	Ocean	**£19.95**
Xenon	Melbourne House	**£19.95**
Zynaps	Hewson Consultants	**£19.99**
SPORTS SIMULATIONS		
Eddie Edwards Super Ski	Elite	**£19.95**
Seconds Out	Tynesoft	**£19.95**
Summer Olympiad '88	Tynesoft	**£19.95**
PRODUCTIVITY SOFTWARE		
Organiser	Triangle Publishing	**£49.95**
JOYSTICK		
Atari CX40 Joystick	Atari Corp	**£4.99**
FREE ATARI BUNDLE VALUE:		**£458.97**

With SM124 mono monitor: £498 INC VAT With SC1224 colour monitor: £698 INC VAT

ATARI ST

ST COMPUTERS

The range of Atari ST computers offers something for everyone. From the games enthusiast who wants the challenge of the very best in arcade action, to the businessman who wants to make financial forecasts or faultless presentations. The ST offers high quality graphics, sound and speed for the gamer, whilst providing a fast, user friendly and affordable solution to business. The ST is now firmly established in the home environment and boasts a wealth of users in education, local government, television, and a variety of different businesses. Software for the range stretches to cover applications as diverse as ENTERTAINMENT, ACCOUNTS, ART, COMMUNICATIONS, COMPUTER AIDED DESIGN, DATABASES, DESKTOP PUBLISHING, EDUCATION, MUSIC, PROGRAMMING, SPREADSHEETS, WORD PROCESSING and more. For a full list of the software available, as well as details of the ST range, complete and return the coupon below.

All prices correct at the time of going to press. E&OE.

520ST-FM EXPLORER PACK

WITH BUILT-IN 1Mb DISK DRIVE

The value for money offered by the Atari ST range is reflected in the Explorer Pack featuring the 520ST-FM computer with 512K RAM. The 520ST-FM computer now comes with a built-in 1 Mb double sided disk drive as well as a free mouse controller and a built-in TV modulator. The new 520ST-FM Explorer Pack includes the 520ST-FM computer, the arcade game Ranarama, a tutorial program and some useful desktop accessories. In addition, if you buy the Explorer Pack from Silica, we will give you the Silica ST Starter Kit worth over £200, FREE OF CHARGE. Return the coupon for details of our Starter Kit and of the full ST range.

£260

ONLY £2.51 PER WEEK RETURN COUPON FOR DETAILS

+VAT= £299

+ SM124 mono monitor: £398 INC VAT + SC1224 colour monitor: £598 INC VAT

1040ST-FM PROFESSIONAL PACK

NOW WITH TV MODULATOR

For the serious home user and the small business, we are pleased to announce a new package based around the 1040ST-FM. The 1040ST-FM has 1Mbyte RAM and a 1Mbyte built-in disk drive. In addition, the 1040ST-FM now comes with a TV modulator built-in. (The previously available 1040ST-F was designed for use with a monitor only and did not come with a modulator.) This modulator allows the 1040ST-F to be plugged directly into any domestic TV set, and comes complete with a lead to allow you to do so. The new 'Professional Pack' from Silica includes the new 1040ST-FM with modulator plus four high quality software packages including a spreadsheet, database, word processor and programming language. This 'Professional Pack' software will enable you to get straight down to business with your new computer. In addition to this software (worth £384.84), if you buy the Professional Pack from Silica Shop, you will also receive the Silica ST Starter Kit (worth over £200), Free Of Charge. Return the coupon for further information.

PROFESSIONAL
Integrated Spreadsheet
Superbase PERSONAL
ST BASIC

£499

INCLUDING VAT

With SM124 mono monitor: £598 INC VAT
With SC1224 colour monitor: £798 INC VAT

ATARI 1040ST-FM	(Computer)	**£499.99**
VIP PROFESSIONAL	(Spreadsheet)	**£149.95**
MICROSOFT WRITE	(Word Processor)	**£149.95**
SUPERBASE PERSONAL	(Database)	**£59.95**
BASIC DISK & MANUAL	(Language)	**£24.98**
NORMAL RRP:		**£884.82**
LESS DISCOUNT:		*-£385.82*
PROFESSIONAL PACK PRICE:		**£499.00**

2Mb & 4Mb MEGA ST

The MEGA ST computers are styled as as lightweight keyboard with a separate CPU, connected by a coiled telephone style cable. There are two versions of the MEGA ST, one with 2Mbytes of RAM and the other with 4Mbytes. Each version has a 1Mbyte double sided disk drive built-in to the CPU unit. The MEGA ST's do not come with modulator built-in and must therefore be used with a monitor. With every MEGA ST purchased, we will add the 'Professional Pack' software (worth £384.83) detailed above, plus the Silica ST Starter Kit (worth over £200) both Free Of Charge. Return the coupon for further details.

2Mb MEGA ST	4Mb MEGA ST
£899 INC VAT	**£1199** INC VAT
+mono monitor=£998	+mono monitor=£1298
+colour monitor=£1198	+colour monitor=£1498

DTP PageStream £149 +VAT =£171.35

Desktop Publishing (DTP) is one of the fastest growing applications for personal computers. We are pleased to announce a powerful low cost package for the Atari ST called PageStream. PageStream costs only £149 (+VAT=£171.35) and, because it works with an Atari 1040ST and a Seikosha SP-180AI printer, you can be up and running with a complete system for less than £1000. Some of the features of PageStream are listed to the right. If you would like further information on this program, complete and return the coupon below, ticking the 'DTP' box in the corner.

* TEXT-FLOW AROUND GRAPHICS
* ROTATION OF TEXT & GRAPHICS
* SLANT OR TWIST ANY OBJECT
* POSTSCRIPT COMPATIBLE
* TAG FUNCTION
* AUTO/MANUAL KERNING & HYPHENATION
* GROUPING OF OBJECTS

WHY SILICA SHOP?

Before you decide when to buy your new Atari ST computer, we suggest you consider very carefully WHERE you buy it. There are MANY companies who can offer you a computer, a few peripherals and the top ten selling titles. There are FEWER companies who can offer a wide range of products for your computer and expert advice and help when you need it. There is ONLY ONE company who can provide the largest range of Atari ST related products in the UK, a full time Atari ST specialist technical helpline and in-depth after sales support, including free newsletters and brochures delivered to your door for as long as you require after you purchase your computer. That one company is Silica Shop. We have been established in the home computer field for ten years with an annual turnover in excess of £8 million and can now claim to meet our customers requirements with an accuracy and understanding which is second to none. But don't just take our word for it. Complete and return the coupon below for our latest literature and begin to experience the Silica Shop specialist Atari service.

SILICA STARTER KIT: Worth over £200, FREE with every Atari ST computer bought from Silica.

PROFESSIONAL PACK: Free business software with 1040ST-FM and MEGA ST's bought from Silica.

DEDICATED SERVICING: 7 full-time Atari trained staff with years of experience on Atari servicing.

THE FULL STOCK RANGE: All of your Atari requirements from one place.

AFTER SALES SUPPORT: The staff at Silica are dedicated to help you get the best from your ST.

FREE CATALOGUES: Mailed direct to your home as soon as we print them, featuring offers as well as all of the new releases.

FREE OVERNIGHT DELIVERY: On all hardware orders shipped within the UK mainland.

PRICE MATCH PROMISE: We will match competitors on a 'same product same price' basis.

FREE TECHNICAL HELPLINE: Full time team of Atari technical experts always at your service.

FREE SILICA STARTER KIT WORTH OVER £200

WITH EVERY ST - RETURN COUPON FOR DETAILS
ALL PRICES QUOTED INCLUDE FREE UK DELIVERY

DO YOU OWN AN ATARI ST?

If you already own an Atari ST computer and would like to be registered on our mailing list as an ST user, let us know. We will be pleased to send you copies of our price lists and newsletters FREE OF CHARGE as they become available. Complete the coupon and return it to our Sidcup branch and begin experiencing a specialist ST service that is second to none.

SILICA SHOP:

SIDCUP (& Mail Order) 01-309 1111
1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX
OPEN: *MON-SAT 9am - 5.30pm* ***LATE NIGHT:*** *FRIDAY 9am - 7pm*

LONDON 01-580 4000
52 Tottenham Court Road, London, W1P OBA
OPEN: *MON-SAT 9.30am - 6.00pm* ***LATE NIGHT:*** *NONE*

LONDON 01-629 1234 ext 3914
Selfridges (1st floor), Oxford Street, London, W1A 1AB
OPEN: *MON-SAT 9am - 6.00pm* ***LATE NIGHT:*** *THURSDAY 9am - 8pm*

To: Silica Shop Ltd, Dept NCE 0489 1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX

PLEASE SEND FREE LITERATURE ON THE ATARI ST

Mr/Mrs/Ms: .... Initials: .... Surname: ....

Address: ....

....

....

Postcode: ....

Do you already own a computer
If so, which one do you own? .... DTP ☐

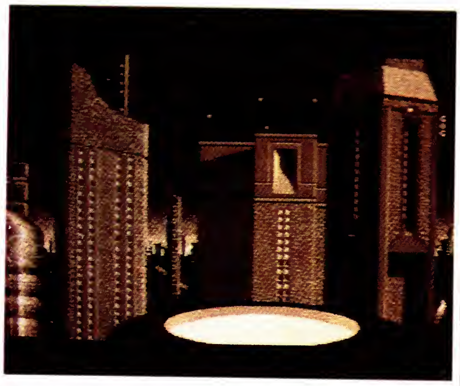
Skate around the subject

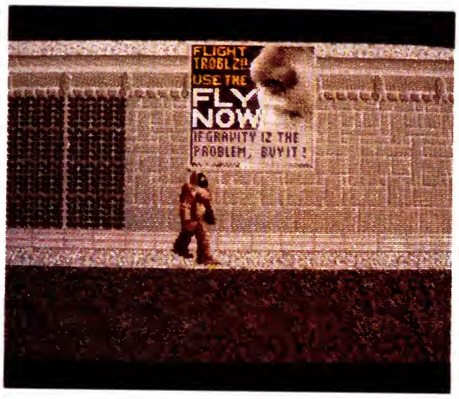
Rik Haynes discovers whether skating is "in" this week...

CRIME TOWN DEPTHS

IMAGEWORKS/MIRRORSOFT

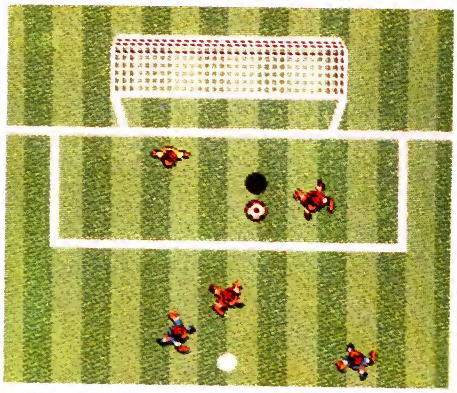
This cyber-looking baby places you in the role of a mercenary paid to take out some criminal scum annoying the inhabitants of the Galactic Despot's home planet. Jacking into this piece of ICE entails all sorts of questions, but as they say, this comes with the territory. *Crime Town Depths* is currently under development on ST, Amiga and PC. No release date has yet been set, but we doubt whether this will be the last time you'll read about this game before it's finally launched.

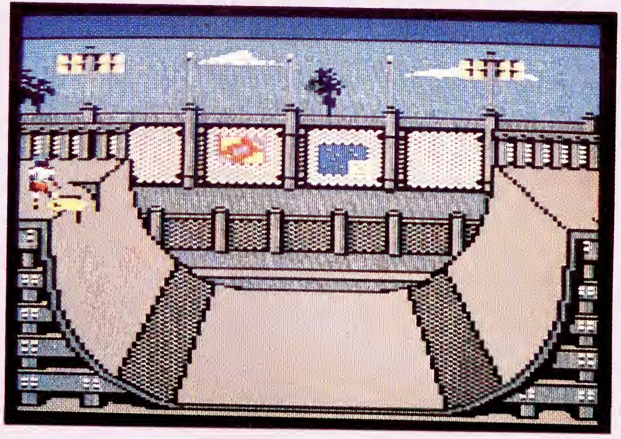




MICROPROSE SOCCER MICROPROSE

With the current craze for footie computer games, Microprose kicks off with its own version shortly on ST and Amiga. Already out on the C64 since last year (Reviewed in *Express* 4), *Microprose Soccer* is an overhead outing including the favourite banana kicks.





SKATE OR DIE

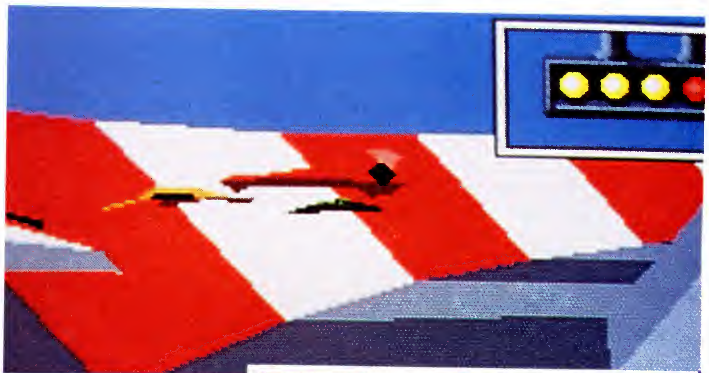
ELECTRONIC ARTS

After a good reception on the C64 and PC(!), *Skate or Die* is finally due to make an appearance on the faithful old CPC – a deck well renowned for its street cred, hip 'n' trendy, radical owners (send all written protests to *Express Hate Mail*, address as normal). Any CPC owners still reading this may like to know the game includes freestyle ramping, downhill racing, downhill jamming, pool jousting and high jumping as you strive to be the coolest dude on the block.

POWERDROME

ELECTRONIC ARTS

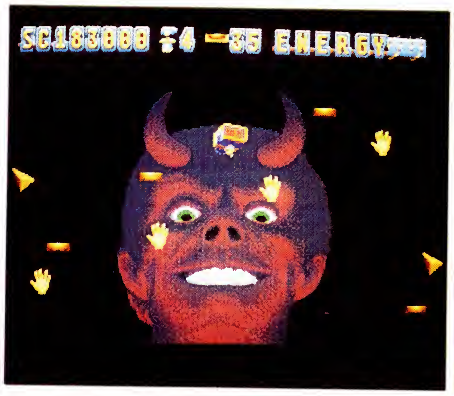
Out on the Amiga next month, *Powerdrome* is a novel solid 3D racing sim, with you in control of a futuristic jet competing against four other pilots in an attempt to win the sought-after Cyberneufe Trophy. Already released on the ST, *Powerdrome* on the Amiga has been rewritten to take full advantage of the machines superior audio-visual capabilities. As with EA's superlative *Populous*, *Powerdrome* can be played head-to-head with a friend with another Amiga or ST via a datalink.

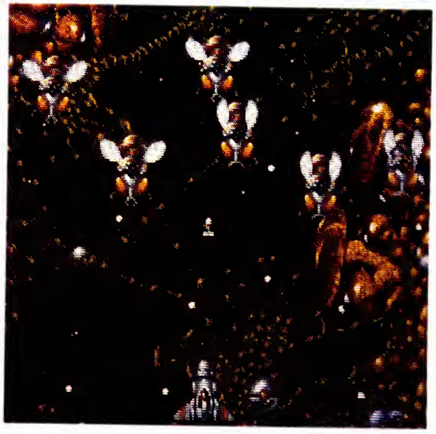


HYPERFORCE

ADDICTIVEGAMES/PRISM

Comprising 30 levels of puzzle infested action, *Hyperforce* will come as a Special Limited Edition with a shoot-'em-up called *Artificial Dreams*. Out soon on ST and Amiga.





XENON II – MEGABLAST

IMAGEWORKS/MIRRORSOFT

After the hugely successful *Xenon*, it was only a matter of time before the Bitmap Brothers programming team would come up with a sequel. Offering the same vertically-scrolling shoot-'em-up action as its predecessor, *Xenon II* also includes improvements such as three level full-screen parallax scrolling, bas relief land and seascape background graphics, and a *Megablast (13th Precinct Hip Hop) Mix* soundtrack by Bomb The Bass (see *Express* 22 for more details). Will this version of *Xenon* make it onto a Saturday morning TV show? The world waits with baited breath. Out some time this summer on ST, Amiga and PC.

The incredible New Computer Express voucher scheme can save you over £10 when you buy from adverts in this magazine!

Full details on next page

EXPRESS VOUCHER

£1

EXPRESS VOUCHER

£2

EXPRESS VOUCHER

£3

EXPRESS VOUCHER

£4

£1 voucher. Valid for orders above £20

This voucher may be used as £1.00 part payment on any order totalling over £20 from a participating advertiser in *New Computer Express*. You simply fill in the details below and send it off with your order.

Your name ____________________

Address ____________________

____

Telephone (if possible) ____________________

Item (s) purchased ____________________

Only one voucher per order is allowed. This voucher and its accompanying order must be received by the advertiser before 9am **May 7, 1989.**

£2 voucher. Valid for orders above £40

This voucher may be used as £2.00 part payment on any order totalling over £40 from a participating advertiser in *New Computer Express*. You simply fill in the details below and send it off with your order.

Your name ____________________

Address ____________________

____

Telephone (if possible) ____________________

Item (s) purchased ____________________

Only one voucher per order is allowed. This voucher and its accompanying order must be received by the advertiser before 9am **May 7, 1989.**

£3 voucher. Valid for orders above £60

This voucher may be used as £3.00 part payment on any order totalling over £60 from a participating advertiser in *New Computer Express*. You simply fill in the details below and send it off with your order.

Your name ____________________

Address ____________________

____

Telephone (if possible) ____________________

Item (s) purchased ____________________

Only one voucher per order is allowed. This voucher and its accompanying order must be received by the advertiser before 9am **May 7, 1989.**

£4 voucher. Valid for orders above £80

This voucher may be used as £4.00 part payment on any order totalling over £80 from a participating advertiser in *New Computer Express*. You simply fill in the details below and send it off with your order.

Your name ____________________

Address ____________________

____

Telephone (if possible) ____________________

Item (s) purchased ____________________

Only one voucher per order is allowed. This voucher and its accompanying order must be received by the advertiser before 9am **May 7, 1989.**

EXPRESS VOUCHERS

How the scheme works

- **The Express voucher is a special scheme to encourage you to buy New Computer Express regularly.**

- **It offers you savings of up to £10 when you buy goods through the magazine.**

- **The vouchers are not limited to specific items – you can save on any purchase from one of the participating advertisers.**

- **Most mail order advertisers in this magazine are taking part in the scheme – just look for this sign. →**

WE ACCEPT ✓ VOUCHERS

- **Remember. The use of just one voucher could more than recoup the price of the magazine.**

THE FIVE SIMPLE RULES

1. Express vouchers can be used to obtain discounts on purchases of goods advertised in this issue of *New Computer Express*, **provided** that they are bought directly from an advertiser taking part in the scheme. The vouchers are valid **only** for those advertisements which say *"We Accept Express Vouchers"*.

2. Each voucher entitles you to a discount at the voucher's face value, **provided** that your overall order level is **higher** than the figure indicated on the back of the voucher.

3. To use a voucher, simply enclose it with your discounted payment when you order. You may use **only one** voucher in any one order.

4. The order including the voucher must be received by the advertiser before the closing date printed on the voucher.

5. **You must** fill in the details requested on the voucher.

Evesham Micros

WE ACCEPT
EXPRESS
VOUCHERS

All prices include VAT and Delivery

ATARI® 520STFM SUPER PACK

Includes STFM with 1MEG drive, 21 games with business software (worth over £450) & joystick.

Only £329.00

520 STFM latest version with 1MEG drive fitted	£269.00
1040 STFM including TV modulator	£399.00
1040 STFM model as above, with 'Microsoft Write' & 'VIP Professional'	£419.00
1040 STFM model as above, including 21 games, business software and joystick as supplied with above '520 STFM Super Pack'	£419.00
1040 STFM as above with super pack extras, with 'MS-Write' & 'VIP Pro'	£459.00

Buy any 1040 STFM model with a monochrome monitor for only £110.00 extra

Mega ST1 with mono monitor, 'Microsoft Wite' and 'VIP Professional'	£599.00
Mega ST2 with mono monitor, 'Microsoft Write' and 'VIP Professional'	£849.00
Mega ST4 with mono monitor, 'Microsoft Write' and 'VIP Professional'	£1099.00
'Super Pack' Software, as supplied with above 520STFM offer	£60.00
SLM804 laser printer, great value at	£1099.00
SM124/5 mono monitor	£119.00
Mega-File 30Mb hard disk	£539.00
Mega ST2 package - includes Mega ST2, mono monitor, external 1Mb 3.5" drive, SLM804 laser, 'MS-Write', 'VIP Pro.', 'Fleet St Publisher' and 90 days on site maintenance	£1795.00
Atari DTP system - (Mega ST4/MM/SLM804/30MB HD/S'WARE)	£2795.00
System AT40 40MB Hard Disk, super bargain value at only	£469.00
5.25" External drive 40/80 track 360/720K formatted capacity	£159.95
Pye 1185 15" FST Teletext TV/Monitor inc.full remote control and cable	£269.00
Philips CM8833 colour monitor c/w ST or Amiga cable	£229.00
Philips CM8852 as above, higher resolution	£299.00

commodore hardware

NEW SPECIAL OFFER AMIGA PACK

Specially priced Amiga 500 package including the following:

★ Amiga 500 computer
★ TV Modulator
★ Mouse & Mouse mat
★ Joystick
★ Purple Saturn Day
★ Hostages
★ Zynaps
★ Quadralien
★ Spitting Image
★ Stargoose
★ Winter Olympiad
★ Eliminator
★ Backlash
★ *plus* 5 disks of public domain s/ware

all for only £399.00

Amiga 500 computer including TV modulator	£359.00
Oceanic OC-118 64/128 disk drive for 64/128 with free GEOS software	£129.95
Freeze Machine complete backup cartridge, with integral reset button	£28.95
LC-10 commodore 64/128 ready printer inc. 2 extra black ribbons free	£199.00
LC-10 7-colour version of above printer inc. 2 extra black ribbons	£249.00

Amiga & ST 3.5" Drives

★ Very Quiet
★ Slimline Styling
★ Fully Compatible
★ Top quality Citizen drive mechanism
★ On/Off switch for Amiga
★ External plug-in PSU for ST
★ Throughport for Amiga
★ 1Mb unformatted capacity

Fully compatible, high quality 3.5" external drives for the ST and Amiga

Amiga version only £79.95

Atari ST version only £82.95

Prices include VAT & delivery

Western Digital Filecards

Upgrading your PC to hard disk? Look no further, we offer the best prices on top quality hardcards. Thorough documentation supplied, low power consumption, with free XTree file management software and Speedread. For Amstrad PC1512/1640 users we supply hardcards tested and formatted, with our simple software installation procedure. The best packages available!

20MB...£209.00 32MB...£229.00 40MB...£289.00

DISECTOR ST V5

for all Atari ST models only £28.95

New Version 5 disk utilities for the ST, features include: **protected software backup**, incorporating **turbo nibbler**, a *very fast and powerful* copier, which uses all available drives & memory and includes 80 parameter options for handling a greater range of software; **drive B boot** allowing many programs to startup from drive B; **organiser accessory** providing many major disk management commands; **special formatters** giving *up to 25% extra* user storage per 3.5" disk and accelerating access speed by *up to 30%*; **fast backup version 2** copies standard disks speedily; **ramdisk accessory**; **undelete file**; PLUS much,much more!

3.5" disks

10...£11.95	in plastic case	£13.95
25...£27.95	in 40 cap case	£34.95

Fully guaranteed double sided media

5.25" disks

25...£13.95	in 50 cap box	£22.95
	in 100 cap box	£24.95

Fully guaranteed double sided media

Amstrad PC1512/1640/2086

We offer a wide choice of Amstrad PCs with many upgrade options, including the very latest PC2086 range. For the hard disk option, check our 'Evesham Upgraded Models'. Only the best will do - so we normally upgrade by means of a Western Digital Filecard, which includes XTree and SpeedRead software; however on single drive 1512/1640 models we can offer internal installations at the same price (leaving more expansion room but no upgrade opportunity for a 2nd floppy drive). On-site service contracts are available on any PC1512/1640 model for only £39.00 inc.VAT. Prices in lighter type exclude VAT.

Free with 1512 models... Ability and 4 US Gold Games

	SD	DD	AMS H.D.	SD 20MEG	DD 20MEG	SD 32MEG	DD 32MEG
				EVESHAM UPGRADED MODELS			
MONO 1512	384.35 **442.00**	477.39 **549.00**	N/A **N/A**	566.09 **651.00**	659.13 **758.00**	583.48 **671.00**	676.52 **778.00**
COLOUR 1512	494.78 **569.00**	555.65 **639.00**	N/A **N/A**	676.52 **778.00**	737.39 **848.00**	693.91 **798.00**	754.78 **868.00**
MONO 1640	474.78 **546.00**	555.65 **639.00**	738.26 **849.00**	656.52 **755.00**	737.39 **848.00**	673.91 **775.00**	754.78 **868.00**
CGA (COLOUR) 1640	581.74 **669.00**	651.30 **749.00**	825.22 **949.00**	763.48 **878.00**	833.04 **958.00**	780.87 **898.00**	850.43 **978.00**
EGA (ECD) 1640	677.39 **779.00**	738.26 **849.00**	938.26 **1079.00**	859.13 **988.00**	920.00 **1058.00**	876.52 **1008.00**	937.39 **1078.00**
2086 MONO	569.57 **655.00**	682.61 **785.00**	912.17 **1049.00**	751.30 **864.00**	864.35 **994.00**	768.70 **884.00**	881.74 **1014.00**
2086 CD	712.17 **819.00**	821.74 **945.00**	1051.30 **1209.00**	893.91 **1028.00**	1003.48 **1154.00**	911.30 **1048.00**	1020.87 **1174.00**
2086 12" HRCD	794.78 **914.00**	912.17 **1049.00**	1120.87 **1289.00**	976.52 **1123.00**	1093.91 **1258.00**	993.91 **1143.00**	1111.30 **1278.00**
2086 14" HRCD	886.09 **1019.00**	1007.83 **1159.00**	1233.91 **1419.00**	1067.83 **1228.00**	1189.57 **1368.00**	1085.22 **1248.00**	1206.96 **1388.00**

PC1512 special offer ..... Buy an Amstrad DMP3160 10" carriage 9pin printer with any PC1512 model for only £120.00 extra !

optional extras

1512 memory upgrade to 640K	£39.95
Maths Co-processor 8087-2	£129.00
NEC V30 (8086 replacement)	£24.95
Cipher CT1525 tape streamer	£319.00
Amstrad Modem Card V21/23	£99.00
Amstrad MC2400 Modem Card	£199.00
Enhancer 101 replacement keyboard	£74.95
3.5" drive (720K) for SD models	£79.95
PC2000 series compatible 5.25" (360K) external drive	£100.00
Joystick & Controller Card self centering analog type	£34.95

Amstrad PPCs

Low prices on all portable PCs - especially twin drive models
prices in brackets are excluding VAT

PPC512S	(£373.04)	£429.00
PPC512D	(£433.91)	£499.00
PPC640S	(£477.39)	£549.00
PPC640D	(£546.96)	£629.00

New low price *External* 3.5" floppy drive (720K) to suit *ANY* Amstrad 1512 1640 inc. DD and HD models! Uses no expansion slots £99.95

Central Point Software

For all your PC disk management requirements

PC Tools Deluxe Version 5... Other utililitles may claim to 'do it all' but only PC Tools Deluxe is the complete disk utility package, providing a fast hard disk backup, the best undelete available, 100% safe formatting of floppy and hard disks, unformat, reliable disk caching, compress facility, in fact everything required to manage & protect your data at a sensible price.................**£49.95**

Copy II PC Version 5........ The most effective floppy disk backup utility of it's type. We always ship the latest version. Can also transfer many programs to hard disk and then run them without reference to floppy. Supports both 5.25" and 3.5" disk format. Don't be without it..................**£24.95**

Copy II Deluxe Option Board..... The ultimate solution to backing up copy-protected software using the hardware option. All the original features of the Option Board, including the most powerful backup copier product on the market, and can even transform any PC equipped with a 3.5" drive into a dual purpose IBM/Macintosh drive. Allows your PC to read and write to MAC data disks easily through DOS. Comes as an easy-to-fit short card..............................**£84.95**

PRINTERS

All prices include VAT, delivery and cable

star

We use and recommend Star printers since they do offer an unbeatable combination of features, print quality, reliability and value. Make the sensible decision - get it right with a Star printer at our special, all in, prices.

Star LC10 best-selling 144/36cps printer, 4 NLQ fonts, inc.2 extra ribbons free	£199.00
Star LC10 7-colour version of above printer, inc.2 extra black ribbons	£249.00
Star LC24-10 feature-packed multifont 24 pin printer	£339.00
Star NB24-10 great value 24pin inc. cut sheet feeder + 2 extra ribbons	£499.00
Star NX-15 budget wide carriage printer	£329.00
Star NB24-15 wide carr.version of NB24-10 inc. cut sheet feeder	£649.00
NEC P2200 budget 24pin, great value 168/56 cps	£319.00
Amstrad DMP3160/3250DI good value 10" 9pin	£169.00
Panasonic KXP1081 reliable budget 10" printer 120/24 cps	£169.00
Panasonic KXP1180 super new 9pin with over 3400 typestyles, 11" carriage	£199.00
Panasonic KXP1124 great new sturdy 11" multifont 24pin printer	£319.00
Epson LX800 popular 10" 180/25 cps	£199.00
Epson LQ500 good 24pin printer 150/50 cps	£319.00
Citizen 120D good value 10" 120 cps	£139.00
Citizen HQP-45 wide carriage 24pin printer	£399.00

How to order

All prices VAT/delivery inclusive
Express courier delivery £5.00 extra
Send cheque, P.O. or ACCESS/VISA details
Phone with ACCESS/VISA details
Govt., educ. & PLC official orders welcome
All goods subject to availability E.&O.E..
Open to callers 6 days, 9.30-5.30
Telex: 333294 Fax: 0386 765354

Evesham Micros Ltd
63 Bridge Street
Evesham
Worcs WR11 4SF
Tel: 0386 765500

Also at: 1762 Pershore Rd., Cotteridge, Birmingham, B30 3BH Tel: 021 458 4564

Made to measure

Pithy prose from the pen of William Poel

"Now see here, my good man, I wish to purchase one of your fine settees and two matching armchairs..."

"Certainly sir. You'll need two hundred feet of one by one, five yards of Dralon, fourteen castors, a box of nails and this set of tools..."

An unlikely scenario (even at MFI). But one that is repeated daily in the computer outlets of the land. The one firm (Omnis) which tried to flog three-piece suites to people who needed them didn't get very far with its application-specific databases. It seems that dealers preferred to stock the raw materials than to have to bedeck their showrooms with prefabricated applications.

The problem seems to be the inevitability that if a dealer is brave enough to proffer his wares in the form of "package solutions", then the customer will nearly always ask for a demonstration – and the scope for deep embroilment is then limitless, and the margin is marginal.

As long as the customers still seem happy to buy their applications in DIY kits, why spoil a good thing? If the punter who pays £400 odd for dBase cocks up his application, he may next be ripe for another harvesting at his friendly local dealer for the training fees, or perhaps the dealer's own approach to custom-made solutions.

Chips in the Microwave

Most people wouldn't dream of buying their microwave cooker as a box, a magnetron and a single chip micro kit – yet they persist in buying their business computing in this fashion.

So why do PC purchasers still offer themselves up like lambs for this slaughter? Do you suspect that it is because they buy these lengths of rough cut wood and boxes of nails because they don't know a three-piece suite when they see one?

Certainly, some of the trade publications for industries like law and farming are full of turnkey solutions that to us know-alls who read specialist computer publications like Express seem like money for old rope. I suspect that the old rope in question is mainly the support and maintenance of the system – a factor which is hard to overestimate.

It is true that some dealers operate in the mode of bespoke furniture makers, but I guess the majority are still builders' merchants. If ever there was a sales business that could benefit from a trade organisation to put across a coherent message, I guess this is it.

Sofa so good

Like the punter who gets home with his wood and nails, many customers with their "generic" software bang in a few bytes, hit their thumbs once or twice and get fed up. After a while they might decide to take a few carpentry lessons – but did they set out with the intention of sitting on the sofa, or becoming proficient workers?

Maybe those who pay £20,000 for a turnkey solicitors' system for what we street-wise computerists regard as "money for old rope" are in fact rich and successful lawyers, who don't give a bean for what goes on behind the key. So why should we be so keen to encourage them to join us in the ranks of the impoverished computerists who are still trying to get the bugs out of that £50 dBase program we wrote four years ago.

NEXT WEEK

Memory upgrades

Do you suffer from a bad memory? Beef up your machine with the Express guide to the best in memory expansion

DTP in magazines

How computers are changing The Face

A-Z Part 2

More of your indispensible guide

History of the Amiga

The machine that changed the State of the Art

PLUS

Another lucky dip of letters, tips, reviews, features, games, classified bargains... and the very latest in news and comment on the computer scene

On sale Thursday May 4th

Order yours now!

Only 48p!

Shoot from the Lip... *the week's most quotable sayings*

"Hackers belong to a nerd culture. Like train spotting."
Software newspaper *Datalink's* Jim Smith.

"Before I met John I thought all programmers were tosspots. I wondered if any of them got up before midday, did half of what they claimed, and finished even remotely on time."
Goliath boss Doug Matthews on his new partner John Jones-Steele to trade paper *CTW*.

"I'm sure Elite, if Frank Bruno had won, would have resurrected that licence somewhere along the line."
Activision UK boss Rod Cousens on games licensing. He added:
"People will try and licence anything that walks."

Pick up an Atari 520STFM Super Pack for £279*

COMPUTER EXPRESS

NORTH LONDON

M1
M10
J.1
A 405
A 405
A 405
A 5183
J. 21A
M 25
M 25
A 405
M1
A 5183
J. 6
SHOWROOM & PARKING

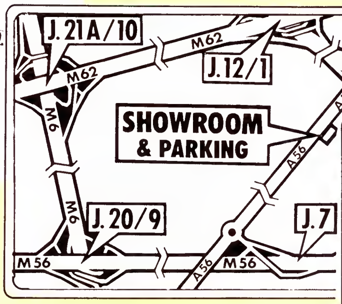
99 Park Street Lane,
BRICKET WOOD,
St Albans, Herts AL2 2JA.
(0727) 72790

WEST LONDON

M40
WESTERN AVENUE
A40
M25
LONG LANE
KINGSHILL AVE
A4020
UXBRIDGE ROAD
A4020
SHOWROOM & PARKING
J.15
M4
J.4
M4
J.3
M25
HEATHROW AIRPORT
A4

304 Kingshill Ave,
(off Uxbridge Road)
HAYES, Middlesex.
01–841 8744

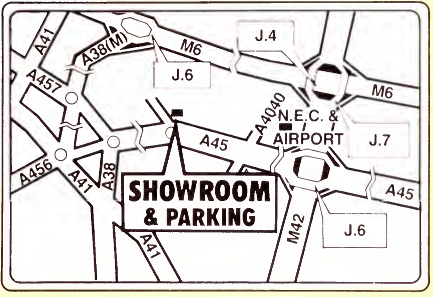
MANCHESTER



85 Washway Road (A56),
(opposite IBM)
SALE, MANCHESTER M33 1TQ.
061–962 0780

SHOWROOM OPENING HOURS:
Monday–Friday 9am–6pm
Saturday 10am–5pm

BIRMINGHAM



1046 Coventry Road (A45),
HAYMILLS, BIRMINGHAM B25 8DP
021–772 5212

ATARI 520STFM

with 1 Megabyte Drive and SUPER PACK of software.

worth over £450 worth at normal retail price.

including Organiser Business Software, Chopper X, Ranarama, Starquake, Genisis, Black Lamp, Thrust, Test Drive, Buggy Boy, Quadralien, Xenon, Wizball, Seconds Out, Zynaps, Marble Madness, Beyonds Ice Place, Thundercats, Summer Olympiad, Arkanoids II, Eddie Edwards, Ikari Warriors.

Spring Special Price ... **£279.00**
(£328.25 including VAT and next day delivery.)

(Offer only available to first 100 callers. This special offer is not available in conjuction with any other offer or vouchers.)

Plus many more bargains....

ATARI HARDWARE

Atari 520STFM Explorer Pack with 512K RAM, 1Mb Disk Drive, Mouse	£235.00
Atari 1040STFM 1Mb RAM, Disk Drive, Mouse	£399.00
Atari 1040STFM with SM124 Mono Monitor	£499.00
Atari 1040STFM with Philips 8833 Colour Monitor	£599.00
Atari Mega ST2 2Mb RAM, Mouse, Mono Monitor	£799.00
Atari SM124 12" High Res Mono Monitor	£119.00
Atari SC1224 12" Med Res Colour Monitor	£339.00
Cumana 1Mb Double sided 3.5" Disk Drive	£90.00
Philips 8833 Med Res Colour Monitor – Excellent Buy	£249.00
Supra Drive 30Mb External Hard Disk – Auto Boot!	£478.00
Atari SH205 20Mb External Hard Disk	£399.99
Atari SLM804 Laser Printer 8 pages/min 300dpi	£1045.00
Supra 2400 Modem V21/V22/V22bis	£159.00
Pace Linnet Modem V21/V23 with cables	£99.00

ATARI STARTER KIT

Exclusive to Computer Express. Contains ST OWNER'S SECOND MANUAL, 5 DISKS OF PUBLIC DOMAIN SOFTWARE and DELUXE MOUSE MAT **£10.00**

STAR LC–10

For the money no other printer offers so much. 80 column multifont printer with 8 resident fonts and paper parking. 144cps draft and 36cps in NLQ quality £175.00
Colour version printing 7 colours £219.00

EPSON LX800

This latest offering from Epson zips along at 150cps in draft and 25cps in NLQ. Comes complete with Parallel Esc–P or IBM Parallel interface as standard, plus top mounted tractor feed. 80 column wide and good clear typeface £192.00

PANASONIC 1180

The NEW low cost successor to the popular Panasonic 1081. More features, more speed, more for your money £159.00

TIMEWORKS

The latest in low-cost DTP. An excellent package for anyone wanting to make a start in DTP for a very modest sum. Timeworks is very popular, and has good telephone support from the manufacturer. Atari version £89.00

COMMODORE AMIGA 500

with free Modulator £319.00

AMIGA HARDWARE

Amiga 500 with modulator and 10 Games	£355
Amiga Colour Monitor	£249
Amiga Mini Genlock	£99
Amiga External Drive 3.5"	£90
Amiga 500 External 20Mb Hard Disk with SCSI	£499

NEC P2200

At last a 24 pin printer you can afford, and with NEC's renowned reliability. This little baby cruises along at 168cps in high speed, 140cps in standard and a really nippy 56cps in Letter Quality mode. This printer should be on every decerning buyers list . £289 Cut Sheet Feed for P2200 .... £65.00

Large Range of Popular Atari and Amiga Software Available.

*All prices exclude VAT and delivery
All prices/specs subject to change

We're there because you're there.

CALL FOR FULL PRICE LIST
EXPORT & TRADE ENQUIRIES WELCOME
TELEPHONE & MAIL ORDERS WELCOME

CALL **0727 37451**

OVER 2,800 ITEMS AVAILABLE
ON-SITE MAINTENANCE CONTRACTS
CREDIT CARDS NOT DEBITED UNTIL DESPATCH

Computer Express Ltd., Caxton Centre, Porters Wood, St Albans, Herts AL3 6XT

RENEGADE III
THE FINAL CHAPTER
imagine
...the name of the game

When a guy loses his girl – he loses his mind! Now, in the Final Chapter, Renegade must summon all his strength and lightning reactions as he chases his girlfriend's captors through time itself. Fight against neolithic man, mediaeval knights, and the tormented undead from within the tombs of Ancient Egypt. Your quest finally takes you BEYOND the present – to a time you'll never forget! ... but remember ... your girl wants to see you alive!

SPECTRUM £8.99 • COMMODORE £9.99 • AMSTRAD £9.99 • ATARI ST £19.99 • AMIGA £24.99

IMAGINE SOFTWARE · 6 CENTRAL STREET · MANCHESTER M2 5NS · TEL: 061-832 6633 · TELEX: 667799 OCEANS G · FAX: 061 834 0650